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ABSTRACT

In an exploratory study conducted for the Women's Action Program of HEW, the aims were to identify and explore the barriers to success that women face as MODVOPPP (Medicine, Osteopathic medicine, Dentistry, Veterinary medicine, Optometry, Podiatry, Pharmacy, and Public health) school applicants and students and to describe the discrimination process, if any, that limits women's entry into the health professions. In this volume on optometry, the profession's history, work focus, organization, and women's role and status in it are reported. Current trends and issues, the organizational network, schools, and the professional training sequence for optometrists are reviewed. Also considered are what the profession looks for in new members, who the students are, assessment of the profession from within, feelings about peers, and feelings about professional experience. Special recommendations are made, and statistical data, interview responses, and a bibliography are included. (LBH)

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AN EXPLORATORY STUDY OF WOMEN IN THE HEALTH PROFESSIONS SCHOOLS

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VOLUME VI: OPTOMETRY

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THE EXPLORATORY STUDY OF WOMEN IN THE HEALTH PROFESSIONS SCHOOLS

We are enclosing the final report of The Exploratory Study of Women in the Health Professions Schools recently completed for the Women's Action Program. The information and recommendations it contains are intended for use by you and your respective institutions, agencies and organizations on policy, program, research, planning or affirmative action activities.

We hope that The Exploratory Study of Women in the Health Professions Schools will lead to greater awareness and understanding of the barriers women face as applicants to and students in the health professions schools. Further, we hope that the contents of this study will be useful in efforts to eliminate or minimize those barriers.

Connie Downey
Director, Women's Action Program
Office of Special Concerns
Office of the Assistant Secretary
for Planning and Evaluation
Fall 1976

EXPLORATORY STUDY OF WOMEN IN THE HEALTH PROFESSIONS SCHOOLS

VOLUME VI: WOMEN IN OPTOMETRY

Prepared for

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Prepared by

URBAN AND RURAL SYSTEMS ASSOCIATES (URSA)
Pier 1-1/2, San Francisco, California 94111

1976

The opinions and conclusions expressed in this report are URSA's and do not necessarily reflect those of the Department of Health, Education, and Welfare.

- R¹ Most of the guys sit around and talk and bull about practice and how we are going to do it, but I have never heard the women talk about it.
- R² The reason we don't hear a lot of them talking about, 'When I get out and practice this and that', is that sociologically they haven't been subjected to the same pressures to have a plan, to know exactly what they are going to be and what they are going to do, and where they are going to buy their house, and where they are going to practice that we are concerned with. They know that they are going to have this degree and that they can use it, and a profession that they can use, and they can go anywhere, so there really is not that much concern. Where they live is determined on where they go.
- R³ [But] all things being equal, women have a different set of hormones. The chances of a man practicing for a reasonable set of time over his life is probably twice that of a woman. There is, I believe, a maternal instinct. Women want to be mothers. When a woman becomes a mother, priorities shift to familial obligations.
- R⁴ But there is a shift in values. The Women's Movement has made a difference. I think that is why more women are applying, and I think these women are going to make a great contribution if not in length of years, at least in terms of 'new blood', new ideas. It won't be an old men's club anymore.

(Group Interview, first year students, males)

PREFACE

The Exploratory Study of Women in the Health Professions Schools was conducted by Urban and Rural Systems Associates (URSA) for the Women's Action Program (WAP) of the Department of Health, Education, and Welfare (HEW) under Contract Number HEW-OS-74-291. The study focuses on eight health professions generally known and referred to as the MODVOPPP professions: medicine, osteopathic medicine, dentistry, veterinary medicine, optometry, podiatry, pharmacy, and public health.

Study Purpose

The study's central tasks have been to identify and explore the barriers to success which women face as MODVOPPP school applicants and students and to describe the discrimination process, if any, which limits women's entry into these health professions. Its central purpose--indeed its primary product--has been the development of conceptual models of the recruitment, admissions, and education systems designed to maximize equal opportunities for women and to encourage their success as school applicants and students in the MODVOPPP professions. The models are the basis for guidance and recommendations intended to assist HEW, the MODVOPPP educational and professional associations, the MODVOPPP schools, and appropriate others to eliminate barriers women face and/or to minimize their impact.

Study Design and Methods

The study was purposefully exploratory in its design. According to the Request for Proposal (RFP) which resulted in the contract, "The exploratory approach taken for this study is based upon the realization that not enough is known about the process of discrimination to permit more systematic research, or to assess alternative forms of intervention designed to achieve equal opportunity based on sex." A common purpose of exploratory studies is to identify and raise issues important to an understanding of a topic under investigation. The power of exploratory research is to illuminate issues in settings and systems which are complex and where simple variables and variable clusters are inadequate

to explain and establish causal relationships. Thus exploratory studies do not normally test hypotheses, they generate them. Their purpose is not to quantify the frequency, magnitude, or distribution of events or phenomena, nor do they measure statistical correlations among events or between events and characteristics of people, institutions, professions, or other categories of systems variables. Rather their purpose is often to define complex systems through descriptive or predictive models which may be subjected to a variety of tests or evaluations in subsequent stages of research. This study's goal of developing success models for women as applicants to and students in the MODVOPPP health professions schools was thus the basis for selecting an exploratory study design.

URSA implemented the design by collecting and analyzing extensive data about the MODVOPPP professions and schools and other pertinent topics and issues. Information was gathered from the following sources:

- Interviews with almost 600 individual MODVOPPP school administrators, faculty members, and students in 27 MODVOPPP schools around the country. These were open-ended, purposefully unstructured interviews designed to surface the widest possible range of issues from a broad spectrum of respondents. They were supplemented by over 60 group interviews in which an estimated 440 men and women students participated.
- Interviews and correspondence with staff members of the professional association, student association, women's professional association, and/or association of schools and colleges in each of the MODVOPPP professions.
- Written documents prepared by and collected from the MODVOPPP schools and associations such as recruitment brochures, school catalogues, financial aid (loan and scholarship) programs and policies, school admissions committee procedures, descriptions and instructions for use of centralized application services, and so on.
- The professions' various current and, when available, historic journals.

- Available statistics on the professions' practitioners, schools, applicants, and students.
- Interviews, correspondence, and meetings with individuals and groups conducting special studies and research in and about the professions, about women in the professions, sex role behavior and learning, and other related topics; and surveys of available studies, research, and relevant literature in these areas.
- Interviews, correspondence, and meetings with representatives of HEW health policy and program agencies and reviews of pertinent federal legislation, regulations, guidelines, and other documents related to health education policy and programs.

All of this information was subjected to qualitative forms of analysis intended to identify conflict and consensus among various sources of information regarding barriers women face as MODVOPPP applicants and students and to identify exemplary policies and programs sponsored by MODVOPPP schools and associations which appeared to eliminate and/or minimize the impact of these barriers. These analyses were the basis for developing the recruitment, admissions, and education models called for by the contract.

Scope of Study Research: Variations Among the MODVOPPP Professions

MODVOPPP students and schools are all designated as potential recipients of federal financial aid under the Comprehensive Health Manpower Training Act of 1971 (PL 92-157) Public Health Service Act; and schools receiving assistance under the Act are subject to its Title VII affirmative action and non-discrimination requirements.

Inclusion in this Act is the common basis on which the MODVOPPP professions were included in this study. Beyond this common feature, however, and the obvious fact that the MODVOPPP professions are all health professions, preliminary study research suggested that in many significant ways the professions are more different than they are similar and that these differences might have great significance for women as applicants to and students in the schools. The

MODVOPPP professions vary greatly in size, for example, with the largest, medicine, having well over 300,000 active practitioners and the smallest, podiatry, having barely more than 7,000. This variation also appears in the number of operational training institutions with medicine having over 100 schools and podiatry only five. The professions differ in public visibility and general knowledge. Everyone knows of doctors, dentists, and veterinarians and knows generally what they do. Not everyone knows what DOs (doctors of osteopathic medicine) or podiatrists are or what they do. Some of the professions are clearly defined as and accorded the social status and other rewards of a profession while others, in the public view, may be more often thought of as a good occupation or a good business. To some extent varying public definitions of profession vs. occupation vs. business reflect different practice patterns and organization. Some of the professions--for example, optometry--are more often practiced in entrepreneurial business forms such as solo or partnership practice than others such as public health which includes opportunities for practice in schools, hospitals, health departments, and other employer institutions.

Variations in professional training are also great. A first professional degree sufficient for practice is possible in some sections in public health within a year; in medicine the minimum is normally five years and the average, depending on specialty selection, much longer. Cost of training varies. Entry requirements to the schools vary. Curriculum content and structure among professions vary.

Finally, and most obviously, the presence of women as practitioners and as students, both historically and currently, varies enormously among the eight MODVOPPP professions, and some are much more heavily sex-typed than others. In pharmacy, for example, about 9% of the active practitioners were women in 1970; however, increasing enrollments of women in schools of pharmacy resulted in women representing 24% of first year enrollments in 1970-71. By contrast, women represented only 3% of active dentists in 1970 and only 2% of first year enrollments in 1970-71.

These most obvious differences among the professions--and others not so obvious--led the URSA study team to conclude that a portion of our research effort must be devoted to an examination of each of the MODVOPPP professions singly and as a separate and distinct social system with its own particular history, forms of practice, professional and training institutions, and practitioners and students. The purpose of conducting eight "mini-studies" on the MODVOPPP professions was to identify any characteristics of each profession--its history, organization, and other important features--which might contribute to an understanding of the role and status of women in that profession and to an identification of the barriers women face as applicants to and students in the profession's schools.

Organization and Contents of the Final Report(s)

As a result of our decision to conduct these studies of each MODVOPPP profession, the study's findings, conclusions, and recommendations are reported in a ten-volume final report. The ten volumes are:

VOLUME I:	Part 1: DATA ANALYSIS, FINDINGS, CONCLUSIONS, RECOMMENDATIONS
	Part 2: APPENDICES
VOLUME II:	MEDICINE
VOLUME III:	OSTEOPATHIC MEDICINE
VOLUME IV:	DENTISTRY
VOLUME V:	VETERINARY MEDICINE
VOLUME VI:	OPTOMETRY
VOLUME VII:	PODIATRY
VOLUME VIII:	PHARMACY
VOLUME IX:	PUBLIC HEALTH
VOLUME X:	ANNOTATED BIBLIOGRAPHY

VOLUME I includes a discussion of the study's major findings regarding barriers women face as applicants to and students in the MODVOPPP professions. It presents the recruitment, admissions, and education models which are designed to eliminate those barriers. It suggests a series of further research and action

recommendations for attention by HEW, the MODVOPPP professional and educational associations, and the MODVOPPP schools. VOLUME I also presents a detailed description of the study's methods.

The several Appendices to VOLUME I include samples of the study's data collection and analysis instruments; a summary of the major issues raised by men and women students in group interviews; financial aid sources, policies, and problems students experience; a survey of the roles and status of women in the MODVOPPP professional associations; statistical tables used by the URSA study team in conjunction with field interview and document review data; and a discussion of data gaps confronting the researcher in the MODVOPPP health professions with recommendations regarding data needs. In this regard, it is important to note and to stress that both the relative absence of minorities in the MODVOPPP schools and professions coupled with the absence of statistical data about applicants, students, and practitioners available by both race and sex simultaneously has necessarily limited the findings and conclusions in this study to Caucasian women. To prevent such research limitations in the future, one of our most urgent data recommendations is that statistical data always be made available and presented by both minority status and sex together rather than singly.

VOLUMES II-IX, the individual MODVOPPP professions reports, are designed to serve as a brief introduction to each profession--an introduction which gives a sense of the profession's history, work focus, organization, and women's roles and status in it. The study's ANNOTATED BIBLIOGRAPHY, VOLUME X, includes a list of the major bibliographic sources used in our research and preparation of all of the study's reports.

Taken as a group, the eight individual professions' studies and reports include the bulk of the total study's findings and are the collective basis for the conclusions and recommendations presented in VOLUME I, DATA ANALYSIS, FINDINGS, CONCLUSIONS, RECOMMENDATIONS. Under optimal circumstances, each individual profession's report should be read in combination with and after VOLUME I. However, in anticipation of the possibility that individual profession's

volumes may be read alone, there is a certain amount of repetition and duplication of information among the eight professions reports and between them and VOLUME I.

In addition to serving as an introduction to each profession, VOLUMES II-IX also have two other purposes. First, each of the individual reports includes a short set of recommendations designed to address some of the problems women experience which are unique or particular to the profession and which are best considered for implementation by either the schools directly or by the profession's various key associations.

Second, the extensive use of direct quotes from our field interviews with administrator, faculty, and student respondents in school site visits provides a vivid description of women students' experiences in the male-oriented environments of the MODVOPPP health professional schools; the extent to which these experiences are unique to women and not shared by male students; and the extent to which these experiences serve as barriers to women as applicants to and students in the schools. Collectively these reports of women's experiences also demonstrate that in spite of the very real and significant size, structural, work, and practice differences among the eight MODVOPPP professions, women's experiences in these professions and their schools are more similar than they are different in many important ways.

WOMEN IN OPTOMETRY

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I. OVERVIEW

WORK AND FUNCTIONS OF THE PROFESSION

Webster's New World Dictionary defines optometry as "the examination of the eyes (without the use of drugs or medicine) for nearsightedness, farsightedness, etc., and the fitting of glasses to correct these defects." The president of one of the optometry colleges refers to optometry as "the application of visual science to the solution of human problems."

The juxtaposition of these two diverse definitions perhaps best illustrates the current state of flux and growth in which the profession of optometry finds itself. On the one hand, a great many traditional practitioners do little more than examine the eyes of individual patients and prescribe lenses to correct any visual defects found. On the other hand, modern optometrists view their services in relation to visual performance. As such, issues of visual efficiency, visual development, visual comfort, visual safety, and visual skills are their chief concerns.

[In recent years] the scope of optometric services has expanded beyond basic clinical refractions, fabricating and dispensing hardware; now included are visual screening examinations, clinical instrumentation, contact lens fitting, visual training, orthoptics, low vision aids for the partially sighted, artificial eyes, industrial vision consultation, and public and community health. The most rapidly expanding area of service is in school consultation and remedial services for low achievers. (19:1)

As with several of the other health professions in this study, almost every landmark in the growth of optometry has been challenged and opposed by a branch of the medical profession--in this case ophthalmology. However, the contention between optometry and ophthalmology has a more competitive and hence critical dimension to it.

Ophthalmology is a subspecialty which is primarily concerned with the treatment of diseases of the eye, such as glaucoma, by medical and surgical means. Statistics indicate that a significant part of ophthalmological practice is not related to such treatment but rather overlaps with optometric practice. For example, 55% of ophthalmologists fit contact lenses, 31% do orthoptic training (vision training for persons with poor binocular vision), and 52%

prescribe low vision aids. (12:27) Much of this overlap can be attributed to the fact that 48% of the US civilian population aged three years and over wear corrective lenses (19:1) while only 3% - 5% of the population have eye diseases which require surgical or continuous medical treatment. (19:1) The economics of the situation promote a competition for patients and, as optometrists assert, a traditional resistance of ophthalmology to any expansion of the roles and responsibilities of optometrists.

SIZE AND SCOPE OF THE PROFESSION.

Survey of Practitioners

The National Center of Health Statistics conducted a survey of optometrists in 1968. (13) According to that survey there were 20,301 optometrists in the United States, 18,427 (90.8%) of whom were then active. (13:1) Women comprised 2.1% of active optometrists, 13.8% of the inactive but not retired optometrists, and 7% of the retired optometrists. (13:2) The following table displays this breakdown.

TABLE 1					
ACTIVE AND INACTIVE OPTOMETRISTS BY SEX (1968) (NUMBER AND PERCENT)					
Sex	ACTIVITY STATUS				
	Active	Inactive But Not Retired	Retired	Total Inactive	Total
Male	18,034 (91.5%)	820 (4.2%)	857 (4.3%)	1,677 (8.5%)	19,711 (100%)
Female	394 (66.8%)	131 (22.2%)	65 (11.0%)	196 (33.2%)	590 (100%)
SOURCE: Department of Health, Education and Welfare/National Center for Health Statistics, Vital and Health Statistics, Series 14#8, "Optometrists Employed in Health Services - United States 1968", March 1973, Table 2, page 19.					

It is unclear why 33.2% of female optometrists are inactive as opposed to only 8.5% of male optometrists. (13:19) One possibility is that women formerly represented a more significant percentage of the optometrists population than they now do and hence show up more in the older and inactive and retired categories than would be the case if former levels of representation had been

maintained. The hypothesis is borne out somewhat by the fact that 69.2% of all active female optometrists but only 59% of all male optometrists are over 45 years of age. (13:25)

In 1960 there were 16,044 active optometrists in the United States or 8.9 optometrists per 100,000 population. (23:43) In eight years this total had increased by 2,383, and the proportion had also increased to 9.3 optometrists per 100,000 population. (13:4) The increase in the ratio suggests that the optometrist population is increasing at a faster rate than the overall population. However, there will have to be significant increases over the next few years to maintain this increase in the face of expected loss through retirement. As a recent report suggests, "This is due to an unequal age distribution [in optometry] which was brought about by a post-World War II bulge of returning veterans who were graduated in large numbers from the schools of optometry in the late forties and early fifties." (19:39)

Apart from recent trends, it is interesting to note that optometry has experienced relatively little growth in absolute numbers since 1920. In that year there were 16,185 registered optometrists. In 1972, owing to some fluctuations there were only 20,736 optometrists. The following table indicates the changes in the optometrist population and provides some projections for the future.

TABLE 2				
REGISTERED OPTOMETRISTS IN THE UNITED STATES: 1920-1972				
YEAR	TOTAL	YEAR	TOTAL	
1920	16,185	1960	21,775	
1930	16,323	1962	21,101	
1940	15,804	1964	20,818	
1950	19,773	1966	20,610	
1952	21,539	1968	20,565	
1954	22,004	1970	20,611	
1956	22,136	1972	20,736	
1958	22,064			
PROJECTIONS				
Optometrists per 100,000 population				
YEAR	TOTAL	ACTIVE	TOTAL	ACTIVE
1975	22,500	19,000	10.2	9.0
1980	29,900	22,000	10.5	9.3
SOURCE: <i>Report of the National Study of Optometric Education, Chapter Five: Optometric Manpower, page 39.</i>				

While shortage areas exist, especially in the South, optometrists are widely and rather evenly distributed throughout the United States, especially as compared to ophthalmologists. For example, they provide service to two and one-half times as many communities. (21:1201) In fact, one out of every three optometrists practices in a small community (24:941), while the bulk of ophthalmologists practice in major metropolitan areas. (19:41)

Type of Practice

According to the National Center for Health Statistics study, approximately 88% of all optometrists are self-employed. Of this total, 73.5% have solo practice, 11.9% are involved in partnerships, and 2.9% are in group practices. Of the 12% of optometrists who are salaried, 6.1% worked for another optometrist, an ophthalmologist, or other physician, 3.5% worked for profit-making organizations, and 2.2% worked for the government or non-profit organizations. (13:27)

While the very small number of women optometrists make percentage comparisons with men difficult, it should be noted that women optometrists appear to have different practice patterns than their male counterparts. For example, 79.8% of all women optometrists are self-employed. Of this total, only 51.9% are in solo practice, while fully 25.6% are in partnerships and 2.3% are in group practices. Of the 20.3% or 80 women who are employed, 48 work with optometrists, ophthalmologists, or other physicians, ten work for profitmaking organizations, and 22 work for the government or in non-profit institutions. (13:28) The following table shows the breakdown of optometrists by practice type:

TABLE 3
OPTOMETRIST PRACTICE CHOICES BY SEX

SEX	SELF-EMPLOYED				EMPLOYED			
	SOLO	PARTNER-SHIP	GROUP	TOTAL	OPTOMET., OPHTHAL., & OTHER	INSTITY. PROFIT- MAKING	OTHER	TOTAL
Male	13,334 73.9%	2,086 11.6%	522 2.9%	15,942 88.4%	1,075 6.0%	636 3.5%	300 2.1%	2,091 11.6%
Female	204 51.9%	101 25.6%	9 2.3%	394 79.8%	48 12.3%	10 2.5%	22 5.5%	80 20.3%

SOURCE: Department of Health, Education, and Welfare/NCES/PNS/HSMHA, *Vital and Health Statistics, Series 14#8, "Optometrists Employed in Health Services," United States, 1968, p.28.*

As Table 3 indicates, the total of women employed by ophthalmologists and other health professionals is quite low considering some of the generally held opinions in the profession about women's practice patterns. Throughout our field work, for example, we heard criticisms about women optometrists working for ophthalmologists. As of 1968, only a total of 171 optometrists of both sexes worked for ophthalmologists or other physicians, while 952 optometrists were employed by other optometrists. (13:24) Of the 1,123 optometrists working for other health professionals in 1968, only 48 were women. It would appear that such a small number of women would not be sufficient to warrant the criticisms against women in optometry voiced by several informants to this study. It may be that increasing numbers of women optometrists have taken salaried positions with ophthalmologists since 1968, although we do not have the data necessary to determine whether and how extensively this might be the case. However, if increasing numbers of women optometrists do work as employees of ophthalmologists this is a recent phenomenon, the implications of which will be discussed later.

Practice Activities

In terms of time spent in actual work, 93% of the men and 85% of the women optometrists work year round. Of these totals, 84% of the men and 58% of the women work full-time. (13:32) Women optometrists apparently work in part-time situations more often than their male peers. However, it should be noted that 84% of the women spent 100% of their time on optometric practice activities while only 79% of the men did likewise. Conversely, approximately 20% of the men spent between 50 and 99% of their time on practice activities. The following table illustrates these points.

TABLE 4 TIME SPENT BY OPTOMETRISTS IN OPTOMETRIC PRACTICE ACTIVITIES BY SEX (NUMBER AND PERCENT)					
SEX	NO TIME SPENT	1-49 PERCENT	50-99 PERCENT	100 PERCENT	TOTAL
Male	122	127	3,519	14,266	18,034
Female	6	8	48	331	394
SOURCE: Department of Health, Education and Welfare/Nation Center for Health Statistics, <i>Vital and Health Statistics Series 14#8, "Optometrists Employed in Health Services, United States, 1968," March, 1973, table 12, page 34.</i>					

In general, optometrists consider themselves general practitioners. In fact, the National Center for Health Statistics study revealed that 96% of all optometrists cited general practice as their primary activity. Of the 4% or 642 optometrists who differed, there were 368 specializing in contact lens fitting, 63 in orthoptics, 87 in developmental vision, 5 in prescribing low vision aids, and 29 in industrial vision. (13:38) Because of the nature of optometric practice, such specialization is based on choice rather than actual certification. Moreover, no matter what the practice, certain services are performed by virtually all optometrists (i.e. 99.7% of all optometrists do refractions). Other more esoteric services such as aniseikonic testing or visual readiness for reading services are rendered by fewer optometrists (8% and 25% of optometrists respectively). (13:38) It should be noted that optometry as a profession appears to rely less on referrals from practitioners within its ranks than it does on referrals from practitioners of health professions.

The primary practice activities of women in optometry have not traditionally been known and publicized because of their relatively low numbers. Thus, certain beliefs about women optometrists have become established with little documentation to support them and, in some instances, the beliefs run counter to what data is available. The belief that a significant proportion of women are employed by ophthalmologists (referred to above) is a good example of this phenomenon. Another example is the widespread belief that optometry is good for women and vice versa because women work well with children, and a significant portion of the population requiring optometric services are children. Many of the male faculty members and administrators interviewed for this study held this belief in one fashion or another. Available data, however, suggest that women rarely emphasize pediatric optometry. A recent survey by Green of women optometrists in the American Optometric Association (AOA) revealed this fact. In her study she sent 230 questionnaires to the women optometrist members of the AOA. Of that total, 112 complete responses were received. The participants were asked what percentage of their patients were children, and 84% responded that less than 50% of their practice was devoted to pediatrics. In fact, only seven of the 112 reported that over 75% of their patients were children. (18:1272) While it may be true that women are good with children, according to the Green study, women in

optometry do not emphasize this trait in their practice activities and, in fact, do not differ greatly from their male counterparts in practice patterns. The Green study revealed that women were interested in and provided services in over 30 optometric activities.

SCOPE OF PROFESSIONAL EDUCATION EFFORT

There are 13 optometric educational institutions in North America accredited by the Council on Optometric Education of the American Optometric Association. The 12 institutions located in the United States are evenly distributed in the four geographic regions of the country. The thirteenth, the University of Waterloo School of Optometry, is located in Waterloo, Ontario, Canada.

As of the 1974-75 school year, there were 3,678 students enrolled in the 12 US schools of optometry. (5) This represents an increase of 40% over the 1968-69 totals. (11:78)

The enrollment of women in schools of optometry has also dramatically increased. Between 1969-70 and 1974-75, female enrollment grew from 73 to 351 and the proportion of women in optometry schools grew from 2.9% to 9.5% of total enrollment. (11:78) Tables 5 and 6 below chart first the increase in total enrollment and in graduates by sex over the seven year period of optometry schools and then in comparison with MCDVOPPP schools in first year enrollments from 1969-1975.

TABLE 5
TOTAL ENROLLMENT AND GRADUATES OF SCHOOLS OF OPTOMETRY BY SEX:
1968-69 THROUGH 1974-75 (NUMBER AND PERCENT)

YEAR	ENROLLMENT				GRADUATES			
	TOTAL	MALE	FEMALE	PERCENT FEMALE	TOTAL	MALE	FEMALE	PERCENT FEMALE
1968-69 ^a	2,203	-	-	-	367	363	4	1.1
1969-70	2,486	2,415	73	2.9	444	421	23	5.2
1970-71	2,831	2,749	82	2.9	530	518	12	2.3
1971-72	3,097	2,985	112	3.6	684	666	18	2.6
1972-73	3,328	3,158	170	5.1	692	675	17	2.5
1973-74	3,529	3,268	261	7.3	793	759	34	4.3
1974-75	3,679	3,328	351	9.5	809	770	39	4.4

SOURCES: 1968-74: *Women in Health Careers*, American Public Health Association, June 1975.

1975: Council on Optometric Education, *Annual Report on Survey of Optometric Educational Institutions*, June 1, 1975.

^aData not available by sex.

TABLE 6
FIRST YEAR FEMALE ENROLLMENTS IN MODVOPPP HEALTH PROFESSIONS SCHOOLS
AS AVAILABLE FOR ACADEMIC YEARS 1968-69 THROUGH 1974-75
(BY PERCENT)

PERCENT WOMEN FIRST YEAR ENROLLMENT	MEDICINE	OSTEOPATHIC MEDICINE	DENTISTRY	VETERINARY MEDICINE	OPTOMETRY ^a	PODIATRY ^b	PHARMACY	PUBLIC HEALTH
1968-69	9.0%	4.0	0.9	9.0	-	-	20.1	N/A
1969-70	9.1%	2.4	1.3	10.9	2.5	-	22.7	N/A
1970-71	11.1%	2.7	2.1	10.1	3.7	2.5	23.7	N/A
1971-72	13.7%	4.3	3.1	15.3	5.3	2.0	25.8	N/A
1972-73	16.8%	6.9 ^c	4.2	18.0	7.9	2.3	27.7	N/A
1973-74	19.7%	9.0	7.2	22.8 ^d	11.3	4.0	29.0 ^e	N/A
1974-75	22.2% ^f	10.9 ^f	11.2 ^f	24.4 ^d	-	4.8	-	47.0 ^g

SOURCE: *Minorities and Women in the Health Fields, Bureau of Health Resources Development, Health Resources Administration, Public Health Service and Department of Health, Education and Welfare, 1974 except:*

^aUnpublished statistical tables from the American Optometric Association, St. Louis, Missouri.

^bUnpublished data from the American Association of Colleges of Podiatric Medicine, Washington, D.C.

^c*Journal of the American Osteopathic Association, Education Annual, 1974.*

^dUnpublished data from the American Veterinary Medical Association Association, Chicago, Illinois.

^e*American Journal of Pharmaceutical Education, "Report on Enrollment in Schools and Colleges of Pharmacy, First Semester, Term or Quarter, 1973-74", 1974.*

^f*Women in Health Careers: Status of Women in Health Careers in the United States and Other Selected Countries, Chart Book for International Conference on Women in Health, The American Public Health Association, 1975.*

^gAssociation of Schools of Public Health; estimate since some unknown; excludes Puerto Rico

Because of the rather free use of student transfers and repeats in schools of optometry, it is difficult to accurately chart the relative attrition rates for men and women with the data available. However, discussions with informants during the study revealed that, as late as 1970, the academic attrition rates for all students were over 20% in some schools. These same informants revealed that the more recent classes have not experienced nearly the level of attrition as their predecessor classes.

II. BRIEF HISTORY OF THE PROFESSION OF OPTOMETRY

The following is an attempt to provide some perspective on the history of the profession of optometry. It draws upon both the interviews conducted with knowledgeable faculty, administrators, and students of the schools visited and on a number of excellent treatises on the profession. It is included here to provide the uninformed reader with a brief perspective on optometry's history. As such, it may be too limited for the reader already familiar with the profession.³

THE PROFESSIONALIZATION PROCESS

The Early Development

Optometry shares with pharmacy (and with some sections of public health) the distinction of being a MODVOPPP profession that did not grow out of the biological or medical sciences. Pharmacy developed out of chemistry and alchemy, while optometry's roots are set in physics, optics, and lens-making.

Three eye care professions have evolved in the United States. The optician and optometrist are both descendants of the early spectacle-makers. Opticians are technicians with training in optics who manufacture and supply spectacles to patients with prescriptions who need them. Their trade of spectacle-making shared in the great flowering of science and invention in the 14th through 19th centuries. This is because every new development in lenses and optics--from Benjamin Franklin's bifocals to the discovery that cylindrical lenses corrected astigmatism and many more--increased the possible number of available spectacle variations. With the development of the science of optics, technological development in spectacle-making, and the understanding of physiological optics, the trade became involved in producing eyeglasses suited to individual eye problems. Thus, in order to make use of the infinite number of variations in eyeglasses, it became increasingly apparent that opticians had to fabricate each pair of spectacles on an individual basis. In order to do this successfully it was necessary to test each patient for spectacles to determine the required lens characteristics. This early vision testing activity was the beginning of the practice of optometry.

The third group of eye care practitioners, the ophthalmologists, are members of the medical profession who specialize in eye surgery. Historically, physicians were opposed to the use of corrective lenses or spectacles to correct vision problems. From the beginning of spectacle use in the 13th century through the 19th century, physicians warned the public that the wearing of spectacles would cause blindness and other maladies. Fortunately these warnings were not universally heeded. While a few enlightened physicians recognized the worth of optics and the legitimacy of corrective lenses, they were in the minority. Hence medicine was late in entering the field of corrective lenses and by the time the mythology around them had been resolved, the practice of optometry had developed into a profession. The competition between optometry and ophthalmology has persisted up to today with almost every development in the professionalization of optometry vigorously opposed by the medical profession in general and by ophthalmology in particular.

The Profession Develops

By the 1890s, optometry had become a full time occupation. The first training school was established in 1892, and by 1900 there were 60 such institutions in operation.

This phenomenal growth unfortunately attracted a number of charlatans and quacks. Scores of itinerant "eye doctors" roamed the country taking advantage of their clients and making a bad name for the reputable practitioners of optometry. The voice of these reputable optometrists was the Optical Journal and Review founded in 1890 to serve the optician and optometrist. Through its efforts and those of the established and renowned practitioners, 183 optometrists met in New York City in October, 1898 to form the American Optometric Association.

State optometric societies had already sprung up, and through their efforts the limits and parameters of acceptable optometric practice were defined and refined. The first state licensing act, which controlled the educational and practice requirements for optometry, was passed in Minnesota in 1901. Although often vigorously opposed by state and local medical societies, optometric practice and license acts had been passed in all of the continental states by 1924.

The process of establishing the optometric educational system was proceeding at the same time. In 1910, Columbia University established a two year program in optometry. This was the first such program established in a university in the U.S. Over the next 15 years three additional optometry programs were established in the Universities of Rochester, California, and Ohio State. These programs developed out of the physics departments of their respective universities and retained an allegiance to and an emphasis in the physical sciences. The university-based optometry school marks one branch of the optometric education system.

A second branch of the system developed out of the work of state and local optometric associations. Several private freestanding schools were established by local practitioners to satisfy the need for future practitioners. The founding of the Pennsylvania College of Optometry, one of the remaining free-standing optometric schools, is an interesting example of this phenomenon. At the signing of the first Pennsylvania Optometric Practice Act in 1917, the governor remarked to a prominent optometrist in attendance that the act would soon be repealed if an optometric training institution were not established in the state. Acting on that warning the optometrist with the help and guidance of the local professional association founded the college in Philadelphia in 1919. The school remains today as one of the 13 schools and colleges of optometry in the U.S. (25:25)

The task of formalizing, standardizing, and upgrading the optometric educational curriculum fell originally to the International Association of Boards of Examiners in Optometry. In 1919 it recommended that four years of high school be a requirement of entrance to a school of optometry. Today most entrants are college graduates.

In 1930 the American Optometric Association established the Council on Optometric Education which assumed the accreditation responsibility for the schools of the profession. Through the work of this body, of certain state boards of examiners, and of the more educationally progressive schools of the profession, the professional education process has evolved into an intensive four-year professional curriculum which prepares its graduates for a role in modern optometric practice

With the establishment of the schools and the professional associations, optometry had come a long way toward assuming its eventual role as a full health care profession. What became necessary was to eliminate the vestiges of commercialism in its practice. This meant placing restrictions on advertisement; limiting the size, location, and format of signs; and most importantly, establishing the professional posture that the service performed (i.e. eye examination, spectacle selection, and fitting) and not the product included (i.e. the spectacles themselves) should constitute the major source of income in the optometrist's practice. This latter point was difficult to establish because of the general temptation to attract clients by means of a free exam and to mark up the cost of the spectacles in order to make a living. Early professional optometrists prided themselves on their insistence upon charging for eye exams and providing spectacles at or near cost.

A formal code of ethics of the profession was adopted by the American Optometric Association in 1944. In 1950 a set of practice rules was adopted to assist practitioners in the implementation of the Code of Ethics. Hirsch sees the evolution of optometric ethics as a gradual development of professionalism and as a movement away from the commercialism of opticianry to the health care-focused practice of optometry. As he puts it:

Several optometric groups, the American Academy of Optometry most significant among them, have, over the years, encouraged optometrists to practice in the same manner as other health professionals. Window display of spectacles, advertising in periodicals, garish signs, were all vestiges of optometry's optician background that had to be abandoned. The American Optometric Association also played a major part in educating optometrists to the mode of practice appropriate for health professionals.

By the 1920s a few optometrists had given up commercial surroundings and were practicing in locations and in a manner similar to other health care professionals. Each year since the 1920s more and more optometrists converted their mode of practice. By the 1960s about three quarters of optometrists had abandoned all elements of commercial practice. As the optometric course increased in length and the student was trained as a health professional, he tended to adopt customary health care profession modes of practice.

At present there are still a few commercial optometric practitioners just as a few such practitioners remain in dentistry, but the vast majority of optometrists render health service in an environment and in a manner similar to other health care professionals. (19:13)

The Modern Phase

By World War II the profession of optometry had gone far in defining itself. Optometrists were licensed to examine the eyes of their patients to determine the presence of vision problems and to prescribe or adopt lenses to correct them. They were openly accepted as health care professionals, but they had not yet begun to expand their areas of interest. The modern phase in the history of optometry can be viewed in light of three parallel themes which, taken together, demonstrate the dynamic growth the profession has achieved in the past 35 years. These themes are:

- changes in the federal relationship to optometry
- changes in professional practice activities
- changes in the optometric educational process

Changes in the Federal Relationship to Optometry

The history of optometry's relationship with the federal government is similar to several of the MODVOPPP professions. These professions share a common desire to be treated on a par with the profession of medicine by the federal government. As with the other professions, federal recognition of optometry has not come easily. During the Second World War, optometrists were not awarded the officer rank as were physicians and dentists. It was not until the 1950s that optometrists were commissioned by all branches of the armed forces.

A second example of the relationship between the profession and the federal government involved the post-war effort of optometric education to accommodate the returning veteran. During the period from 1946 to 1954 optometry educated a mass of students, most of whom financed their education on the GI Bill. Three year, 12-month programs were instituted to accommodate the extreme demand. Other health professions experienced similar increases, but not to the dramatic degree that optometry did. As Table 7 shows, during the period from 1948 to 1950 the schools graduated many more students than before or since.

TABLE 7

GRADUATES OF SCHOOLS OF OPTOMETRY, ACTUAL AND PROJECTED, 1941-1981

1941-42	418	1961-62	334
1942-43	336	1962-63	350
1943-44	326	1963-64	384
1944-45	157	1964-65	377
1945-46	217	1965-66	413
1946-47	528	1966-67	481
1947-48	1452	1967-68	477
1948-49	1934	1968-69	441
1949-50	1572	1969-70	445
1950-51	961	1970-71	528
1951-52	636	1971-72	683
1952-53	684	1972-73	701
1953-54	674	1973-74	775
1954-55	473	1974-75	817
1955-56	333	1975-76	900*
1956-57	355	1976-77	900*
1957-58	349	1977-78	1000*
1958-59	323	1978-79	1000*
1959-60	375	1979-80	1000*
1960-61	319	1980-81	1000*

**Projected*

SOURCE: Myers, K.J., "Optometric Education: Is It Keeping Pace With Future Manpower Demands?" Journal of the American Optometric Association, Vol. 45, #10 Oct. 1974, Table 1, p.1191

As mentioned earlier, this large group of optometrists (7767 over the 1946-54 period) will begin retiring over the next decade, prompting a decrease in optometric manpower which may be difficult to overcome. As Myers points out, this decrease is based on the fact that subsequent graduating classes were too small to maintain a balanced practitioner population and "is in contrast to ophthalmology where practitioners have tripled since 1950 (3400-10,252)" (22:1195)

The federal influence on optometric education has been even more dramatic since 1963 than it was in the early fifties. With the Health Profession Educational Assistance Act of that year and the Comprehensive Health Manpower Training Act of 1971 the federal government provided schools of optometry with construction funds, per student "capitation grants", and "special project"

grants. It also provided optometry students with federal loans and grants. Upwards of \$26,000,000 was received from the federal government between 1967 and 1972. Moreover, money for visual and optical research, minority recruitment, and other special efforts has been received in varying degrees by the individual schools of optometry on a grant award basis. Unfortunately recent federal appropriations have tended to limit rather than maintain and expand this support, and the schools of optometry have had to face some rather critical financing issues. However, the impact of federal funds and federal mandates upon optometric education has been and will continue to be felt for some time to come.

The federal government's relationship to optometric practice in recent years has been even more critical than its relationship to optometric education. Medicare, Medicaid, the Health Maintenance Organization (HMO) Act, and the numerous proposed national health insurance plans have had an important impact on optometric practice. Some observers believe that one of the most dramatic of these impacts has been the recent decline in the number of inner city optometrists. They cite the fact that states have the option to include or exclude optometric services in their Medicare and Medicaid programs. Many states have chosen not to reimburse for such services. Thus, the inner city poor and elderly who rely almost exclusively on Medicare and Medicaid do not have access to optometric services since optometrists, unable to maintain inner city practices, locate elsewhere. Any future health services legislation will have devastating impacts on optometry unless vision care services are fully provided, and optometric services are fully eligible.

Changes in Professional Practice Activity

Aside from the federal relationship the modern era in optometry practice has been characterized by rapid and dramatic change. Where the optometrist once was solely a technician who tested eyes and prescribed lenses, s/he has become a diagnostician, a vision trainer, a vision screener, and an essential public health practitioner. The chief administrator of one optometry school sees the last 35 years as ten year cycles of interest which represent the changing practice activities of the modern optometrist. As he put it:

If you look at the practitioners who graduated in the '40s, and go to their practice and see what they do, they're heavily involved in refraction and dispensing, very much based on eye glasses. There would be very little content in his or her work. In the '50s, the new technology and contact lenses expanded the scope of practice. You see those people adding things like vision training, or evaluating a child's developmental progress in terms of how he sees, and doing contact lens work. In the '60s, they became more aggressive in expanding the areas of interest. In the '70s, even more, they are expanding the potential scope.

So the guy that graduates today has a broader horizon of what he can do from the fellow that graduated ten years ago. Not only in say, medical care, which may be raised--the business of touch treating eye disease. One thing optometry is never going to do, I'm sure, you know, is want to do surgery. For one thing, there's not that much needed.

But more and more the profession is thinking (and again it may be turf, it may be wanting to exist, it may be the pressures of not becoming extinct) that technology is more and more giving us cause not to do refractions. In the next ten to fifteen to twenty years, computer based instrumentation is going to make a major change in diagnosis. Optometrists are going to have to do more things in more areas. They have to do more things that relate to human performance: help a child see better to perform academically, or get into treating conjunctivitis or whatever, as a role for general eye care. Surgery, no, I never see that happening, but then, it may be that surgery may not be necessary twenty-five or thirty years from now.

The potential for this profession to do so much more for the public, is just phenomenal. When you look at the importance of vision in learning, in performance (the sort of performance from landing a 747, to reading, to working in a factory under ideal visual conditions, to improved production, to just playing tennis) in that whole bag of using a very important sense organ, you begin to realize the important mission of optometry.
(Chief Administrator, male)

Apart from new areas of interest, optometry has also branched out into new responsibilities. Certain states have expanded practice acts to allow optometrists to use drugs in their diagnosis and refractive activities. The profession hopes some day to be able to treat eye disease medically or pharmacologically. Moreover, the role of optometry in the health care system as a major primary entry point to the health care system is beginning to receive widespread recognition. There is a movement to have optometrists take blood pressures, or obtain urine samples from patients to provide a level of primary screening and referral for patients who would not otherwise see a physician.

Changes in the Optometric Education Process

The modern era in optometric education has also been characterized by dramatic growth. The enrollment drought of the late fifties and early sixties has ended (see Table 5, page 7). Technological advances in vision care have been introduced into the curriculum. Entering students are older, more experienced, and more educated than their predecessors. Moreover, the schools have been active in research and in the development of new technology in vision care.

Much of this growth can be attributed to the federal support of optometry schools as noted earlier. State support of optometric education has also increased dramatically in recent years. Since 1969 three state supported optometry schools have been opened in major universities--the schools of the University of Alabama at Birmingham (a medical sciences center), the State University of New York, and Ferris University of Grand Rapids, Michigan.

The academic growth of optometric education has been achieved in part by the efforts of the schools to implement the Havighurst Study of 1973. This study sought to upgrade all elements of optometric education and to plan for future growth and development. The Association of Schools and Colleges of Optometry has, in a relatively short period of time, sought to unite the efforts of optometric education, freestanding and university school alike, in a common effort. Faculty and staff have worked together with experts in the behavioral as well as the physical sciences to introduce a new element of vision research into optometry. In short, very little remains of the old optometric education system that ushered in the modern era in 1940.

HISTORY OF WOMEN IN OPTOMETRY

Since relatively few records have been kept on the history of women in optometry, one has to rely on the mention of women in journals and periodicals. We are indebted to the AOA Library in St. Louis for the use of their file on women in optometry.

A fair estimate places the number of women practicing optometry in this country at approximately 500--a mere handful compared to the great army of women waiting for her services, for women, as a class, seem to have an increasing preference for patronizing women. Nor do the men hesitate to patronize them either. (17:230)

The above statement, which provides a strong endorsement for women in optometry and a call for expansion of their numbers, goes very well with current sentiments of and about women in optometry. In fact, the quote was written by Edith Gallup, a Denver optometrist, for The Optical Journal and Review of January 18, 1912. In the 63 years since she penned that statement, the status of women in optometry has, if anything, greatly diminished.

The issue in which Mrs. Gallup's statement appeared was the twenty-second anniversary number of the then most important journal of optometry and opticianry. In all, 18 women contributed articles to that issue which was devoted mainly to women. No comparable tribute to women in optometry has been launched since.

By and large the earliest mentions of women in the journals consist of testimonials to renowned and successful women optometrists. Introductory headings usually noted something like "A Successful Woman Optometrist" followed by a sober recitation of the woman's achievements. These tributes were similar in tone and style to those afforded equally successful men. Edith Gallup was so honored in the March 31, 1904 issue of The Optical Journal and Review.

As noted above, women were frequent contributors to the journals. Often articles were little more than descriptions of their practice, but even in these vignettes a view of the early place of women in optometry can be discerned. Clara B. Mathews of Paris, Kentucky, writing in the June 12, 1914 issue of The Optical Journal and Review, revealed that her practice was professional in nature, that she had made acquaintances with the physicians and "oculists" in her town, and that she gave and received referrals from her peers "as is befitting a professional". Often the articles written by women were devoted to general optometric subjects, not women's issues. For example, Annie Day Robinson wrote "On Prescribing Bifocals" (Optical Journal and Review, July 18, 1912), Ethel Rose Zemansky contributed "Public Appreciation of Optometry", (OJRO, March 18, 1915), and so on.

Perhaps the most telling indicators of the early role of women in optometry are the honors and offices women held in local and national associations. Of the 183 charter members of the AOA, two were women. In 1910, Dr. D. Elva Cooper was named second vice president of the AOA. She presided over the

national congress the following year, "despite opposition from some of the male members who felt that precedent was being terribly upset." The following year she was elected treasurer, and another woman, B.B. Bostwich was elected vice-president. A woman was elected vice-president again in 1917 and was herself succeeded by a woman the following year. Edith Gallup served periodically on both the Physiological and Scientific Sections and the Board of Regents of the AOA from 1907 to 1918 and thereafter on the Executive Council.

During the 1920s and 1930s women were rarely heard from in the AOA. This may be partly due to the formation of the Women's Auxiliary in 1926. The auxiliary devoted its efforts then and now to promoting the profession and raising money. Women did serve as trustees of the AOA during this time, but they never again achieved high elective office within the AOA. In 1940, perhaps reacting to what the Women's Auxiliary had become, Dr. Frances P. Marshall promoted the idea of a national association of women optometrists apart from the AOA. Her proposal was sanctioned at the AOA convention, but nothing came of her plans.

As might be expected, women achieved higher prominence at the state and local level than they did nationally. A woman served as the president of the Indiana Association of Optometrists in 1920, another as president of Tennessee's Association in 1923. The last woman to attain such prominence on a state level was Dr. Mollie W. Armstrong who, in 1950, served as president of the Texas Optometric Association and the State Board of Optometric Examiners. In the 1930's she had served on the Board of the AOA.

Numerous women served as presidents and officers of local optometric associations during the early and middle years of optometry. However, the high point of women in optometry probably remains the period between 1910 to 1920 when women served as elected and appointed officials of the AOA and local societies, were frequent contributors to journals, and were successful and often renowned practitioners. In fact from 1940 on there has been a decided change in the tone of articles about women and a dearth of articles by women in the representative optometric journals. Titles such as "A Bow to the Ladies" (OJR, May 15, 1947, page 18) and "Lady ODs" (OJRO, March 1, 1957) tend to isolate the women in optometry from the mainstream of the profession and to feminize their achievements. The scant mention of women in journals during the 1950s and '60s suggests that they were probably isolated from positions of responsibility and power during those

years. Recent articles about women in optometry have included surveys of the practice patterns and preferences of active women practitioners. The comments of these active, anonymous practitioners echo the sentiments voiced by the women of 50 years ago, but somehow their words do not ring as strongly as, for example, Edith Gallup's endorsement for women in the profession cited above.

Recent attempts to increase the female enrollment of optometry schools may help achieve some of the goals expressed by Edith Gallup 63 years ago, but such increases will have to continue just to maintain the present proportion of women in the profession. According to the 1968 survey, 272 of the 394 active female optometrists were over 45 years of age. In fact only 36 women were under 35. More than numbers is needed for the modern woman optometrist to attain the status and power in the profession that her predecessors had. As the remainder of this report will demonstrate, most people in optometry today are unaware of the role that women played in developing the profession. Moreover, most are ambivalent about the role women can play in the future.

Perhaps the most telling commentary on the role of women in optometry can be found in the profession's major recent educational effort, the National Study of Optometric Education known as the Havighurst Report. In this report, which is expected to take its place alongside the Flexner Report of allopathic medicine, the issue of women in optometry warrants only one-half of a page under the heading "Women Students". Within this very brief section, in what is perhaps the most important work ever produced on optometric education, the following quote may best sum-up the status of women in optometry today:

A very beautiful and apparently competent woman optometrist who sees a number of women in health services (she works in a large HMO) discussed the matter of women in optometry with Professor Havighurst.
(19:82)

III. THE PROFESSION TODAY

CHARACTERISTICS OF THE PROFESSION

The Profession and Its Social Image

As a lesser known health profession, optometry often suffers from its own obscurity. It is difficult to assess or describe the general public view of optometry because of this obscurity. Many of our study informants had general opinions of what the professional and social images of optometry are, and they can be discussed as a series of contrasting concepts.

First, optometry has a generally masculine, entrepreneurial, managerial flavor to it. The solo practice model predominates in optometry. The OD is often seen as a businessman due to the merchandise and product aspects of the traditional solo practice model. Next to pharmacy, optometry has the most business-like character to it, and optometrists often promote this trait by serving on chambers of commerce and other small business associations.

At the same time, much of modern clinical educational techniques stress a more feminine, caring image. The optometrist must communicate with his or her patients in order to get an adequate understanding of their vision problems. This need for communication is highlighted by the relationship of vision to the behavioral sciences. Learning, growth, development, education and psychology are becoming increasingly important to the optometric curriculum. Along with these concepts comes necessarily a humanistic approach to general practice. Hence there remains a curious balance between the traditional masculine image of optometry and its modern feminine image.

Second, there is within optometric education a decided tension between academic or research aspects of the visual sciences and the practical aspects of optometric care. The academic sphere, represented by the university schools, stress research, graduate education, and require multiple degrees (OD, PhD) and multiple responsibilities (research first, teaching second) of their faculties. The professional sphere, represented by the freestanding schools, stress practice management, professionalism, and promotion of

the profession, and are not as demanding of their faculty. In the past these differences tended to separate the university and freestanding schools, but the recent rise of the Association of Schools and Colleges of Optometry and the recognition of need for coordinated and cooperative action have tended to unite the schools and to reduce the tensions between them. Thus the schools have begun increasingly to focus on broader, more compatible postures--the university schools by promoting the profession more and the freestanding schools by encouraging research and academic excellence more.

Third, there is the general status of the profession. In a 1973 survey of optometry students (19:75) which included responses of 61% of the students then in attendance (2,192 male, 82 female), the following opinions were expressed:

- 15% felt that the public gave optometry the status it deserves while 76% disagreed, and
- 9% felt other professions gave optometry the status it deserves while 82% disagreed.

Thus a significant majority of students felt that the profession was not given the recognition they felt it deserved. These sentiments are shared by the optometry students of 1974-75 and 1975-76. Our interviews revealed that optometry students enjoy their profession, and as one woman put it, "should be ready to promote the profession whenever possible." At the same time, fewer students are unsuccessful school applicants choosing optometry as an alternative. For the first two years of the Optometric College Admissions Test (OCAT) (1972-73) the test was administered by the same organization that was handling the Medical College Admissions Test (MCAT). It was therefore possible to cross reference what percentage of people taking OCAT also took MCAT. Only 10% of the students overlapped. Our study tends to reinforce that data, especially for the women. Comments like, "I did not want to be involved in life and death situations" or "I just want to have a pleasant life without all of the pressure," or even "Medicine and dentistry are just too messy; optometry is clean," were consistently heard by our field teams. The results of our study and the study cited above suggest that the optometry school population is made up of satisfied and largely dedicated students who may indeed seek to "promote the profession whenever possible" in the years ahead. The status of the profession may rise accordingly.

The Profession and Practice Options

As mentioned in Chapter I, the majority of optometrists gravitate to the solo practice model. This majority is diminishing somewhat as the economics and technology of optometric practice become more complex.

Of the 2,087 optometrists under 35 years of age in 1968, only 1,206 or 58% were in solo practice (13:27), and the percentage becomes significantly lower the younger the practitioner. This is at least in part due to the greatly increased costs in starting up a solo optometric practice. As the Havighurst Report points out:

The increasing cost of starting an office practice is striking. Inflation, technological improvements and the need for additional equipment and space are substantial factors in the rapidly increasing costs.

Basic equipment, a refractor, chair and stand, keratometer, projection chart and vertometer which cost about two thousand dollars in 1940 cost about nine thousand dollars in 1970. In recent years price increases alone have averaged five to eight percent a year. Increased costs of dispensing service added to the above means that to equip an office for basic optometric service costs five times as much in 1970 as it did in 1940. (19:31)

Even for the established optometrist, the technological growth in optometry over the past 20 years is such that it is becoming increasingly difficult for the solo practitioner to provide a full range of services. Unlike the practitioners of other professions, the graduates of the 1950s know full well that the graduates of the 1970s are superior to them in almost every area but experience. And, with the expansion of practice responsibilities, (i.e. the use of diagnostic drugs) that require special training and licensing, the fully trained modern graduate has a real advantage over his or her predecessors. Accordingly, there has been a gravitation to associate or partnership arrangements within optometry. The Table 8 indicates the result of the Havighurst Report survey of the student practice preferences.

TABLE 8
CAREER INTERESTS OF OPTOMETRY STUDENTS

A. Forms of Career

	High Interest	Low Interest
Solo Practice.....	54	11
Associate Practice.....	65	5
Clinic or Health Center.....	28	23
Administration.....	3	79
Teaching and Research.....	7	63
In Business as Optometrist.....	1	89
Working for an Ophthalmologist.....	7	67

B. Forms or Styles of Practice

Percent favoring:	Private Office Practice	Neighborhood Health Center	College of Optometry	Military Service
In what kind of setting do you want to work?.....	31	15	3	1

SOURCE: Havighurst Report, Table 8.6, page 78.

While the survey and our interviews indicate that associate practice is perhaps the most desirable form of practice arrangement to optometry students, there are some decidedly critical problems facing women graduates in their search for associateships upon graduation. As the chief administrator of one school suggested:

We're not sure whether what we're doing is the best thing or not. We're concerned. Not with the women and not with getting them through school, but with the profession itself, and the extent to which it absorbs them. In general, there distinctly is a person power shortage in the health profession. There aren't enough doctors. If we take sizable numbers of women and the society doesn't get 40 years practice out of them then really it wasn't such a smart thing. It may have been fine for the women, but we are not solving the problem of enough doctors to take care of the population. So what we are concerned with is what's going to happen to them. The effort we're making is not in the direction of getting them in, not in the direction of them getting through

school, that's easy. What we are now doing is going out and talking to the optometrists in the field and saying, 'You guys better wake up, the graduating class is going to be heavily composed of women,' and if every optometrist out there or any sizable number say, 'Well, the only one I want to work with me is a white Anglo-Saxon male optometrist' then bad news as far as what it will do to the supply of doctors. (Chief administrator, male)

His counterpart in another optometry school had this to say:

I do not see a hostile atmosphere out there for women. Practitioners do tell us, 'For crying out loud, why don't you have more women graduates.' Many of them unfortunately think in terms of children's practice, and some women do get upset about being channeled or categorized. (Chief administrator, male)

The women themselves expressed real concerns about their abilities to get associateships. Comments like the following are an indication of this widespread concern:

- *It is hard, women are looked down on for working for ophthalmologists or a pre-paid health plan, but optometrists usually won't take a woman as an associate, where an ophthalmologist will. (Third year student, female)*
- *The excuses are so bad. We hear that optometrists can't associate with women because their wives would object, that women can't be left alone in the office, that patients wouldn't stand for a woman. It's absurd but that is what we are facing. (Second year student, female)*
- *The schools won't even refer us to optometrists they know don't want women. (Third year student, female)*

This latter point, that the school was not referring students it either knew or supposed were undesirable to inquiring optometrists is a practice this particular school evidently has dropped. Since placement is so critical to the graduating OD, such practices may be extremely injurious to the professional careers of women or other "undesirable" graduates. More importantly, perhaps is the fact that they are activities that are actionable under Title VII of the Civil Rights Act of 1964 and (possibly) Title IX of the Higher Education Amendments of 1972.

There are other practice alternatives apart from solo practice or associate-ship. These include group practices and employee situations.

With the development of an increasing number of optometric specialty or emphasis fields, there has been some movement into optometric group practice. This configuration, usually limited to larger communities, would involve the partnership of several optometrists each with a "specialty" or emphasis area.

A second type of group practice is the inter-professional group where a team of physicians and other practitioners combine to form a corporate or partnership arrangement. It may be a small health service group practice, an HMO type of situation, or a major contractual pre-paid health service organization operation like the Kaiser-Permanente Medical Group in the San Francisco Bay Area.

Optometrists, like pharmacists, are often not afforded full partnership in such arrangements. In the case of Kaiser, for example, they are not allowed into the basic physician partnership arrangement; they are supervised by ophthalmologists; and their activities are generally limited and circumscribed by the organization. To many professionally oriented students and practitioners such employee situations are unacceptable and would become acceptable only under a system that recognized the optometrist as an equal.

The ophthalmologist/optometrist arrangement is one which is also unacceptable to the professional optometrist unless the relationship is one between equals. As mentioned throughout this report the optometrist/ophthalmologist relationship is tenuous in general. Therefore, where possible, optometrists would like associations with ophthalmologists not to be on an employer-employee basis. The least desirable arrangement for an optometrist is within a commercial setting. The Havighurst Report had this to say about commercial optometry:

Some optometrists work in merchandizing establishments which advertise. They make their income primarily in the manufacture and sale of eye-wear. This may be an optical concern, or it may be a department store with an optical department. This form of practice is declining in frequency and very few students look forward to a career in a commercially controlled practice. (19:33)

CURRENT TRENDS AND ISSUES

This report has identified numerous current trends and issues within optometry throughout. A complete description of any one issue or trend would take a separate report. The following is therefore an attempt to bring together a series of issues that best represent the state of change and growth within the field.

Changes In the Image of Optometry

There is some emphasis on bringing the optometrist into closer contact with other health professionals. Part of this effort requires the recognition of the optometrist as a primary care provider. Simple testing (blood pressure or urinalysis) would be done by and expected of the optometrist for identification of disease and referral to the appropriate practitioner. Moreover, the role of the optometrist in educational development and performance is becoming recognized. Vision screening for school children, consultation with business and industry, and research with psychologists and other behavioral scientists are roles being assumed by optometrists which of necessity, will change the image of the profession over time.

Changes Of the Nature Of the Work

Apart from the changing working arrangements cited above and the changes necessarily brought about through the development of new technology and practice techniques, a major trend in optometry is to push the practice and license acts to their limits and to expand the acceptable role of optometry in the area of pharmacology. In this regard it should be remembered that optometrists are not licensed to use or prescribe drugs or perform surgery in the treatment of eye disorders. However, recently a number of states have revised their optometric licensing and practice acts to allow optometrists to use drugs to diagnose vision problems (i.e. dilate the pupil). Optometrists hope someday to be able to treat certain conditions of the eye by prescribing appropriate drugs.

As with any previous advance of the profession, the practice act changes have been fought vigorously by allopathic medicine. However, a few state

optometric societies have been equally vigorous in combating that opposition. The students are aware of this contention, and a significant portion of them expect to become actively involved in promoting their profession upon graduation.

Changes in Practice Patterns

As the previous section suggests, the traditional solo practice model is slowly becoming replaced by more practice alternatives. Student preferences and economic realities appear to be pointing toward more partnership and group arrangements. In the latter category, as with all employment arrangements, there is a tension between the desire for an independent professional practice on the one hand and the need to practice one's profession on the other. The role of optometrists in HMO or other pre-paid Kaiser-type settings is critical to the profession.

Another important change is the rise of specialization. Today very few practitioners specialize. As yet no specialty certification exists, but there is a movement toward specialization beginning. As one administrator put it;

If there is a divergence within the profession, it is probably in the area of the specialties. Because the profession is relatively new, there are a million specialties out there. People fancy themselves specialists where they are really not. In the last three years there's been a real attempt to look at the whole area of specialties and decide whether they should exist. The decision that we came to is that they do exist. People are restricting their practice to certain things. Some people will restrict their practice solely to fitting contact lenses. Now the issue is that the contact lens is a device, it's not a problem. And the device is used in many problems. Dilemma: Do you identify your specialties by grouping the people with unique problems, like children, or do you limit your specialties in terms of techniques, which is what dentistry did? Orthodontia is a technique. Now pediatrics, of course, relates to children and there's a lot of overlap. Dentistry is blossoming their specialties as bad as medicine.

We don't want to follow either of those routes, but there is a big debate going on now. What will probably happen is that those specialties that are relatively cleanly defined now, like contact lenses, will stay because of historical reasons.

Other areas will look more toward the problems, the unique problems of subgroupings of people. Now, even if you define it that way, there are differences in what different residency programs you provide, and what certification requirements you impose. But for the time being, we do have the luxury of planning our eventual approach. (Chief administrator, male)

The question of specializing presents special issues for women. In order for women to participate fully in the profession, it is necessary that they not be channeled into any one area and, also, that they not be restricted from entry into any area.

Changes In Technology

While technology often expands practice responsibilities (as with the development of contact lenses), it can also retard it. There is speculation that computer based technology may do the traditional work of optometrists in the years to come, thus requiring the identification of new practice roles and responsibilities, some of which have been discussed above. In addition there has been a real increase in optometry based research in recent years. This research involves not only the traditional areas of physiological optics and physics but also psychological and sociological research, and it has been carried on in applied research settings within industry and business settings as well as in the academic setting.

Changes In The Role Of Optometric Education

Apart from the many trends and issues facing optometric education from within (see below), the last few years have seen the schools becoming overall forces for change within the profession. The rise of the Association of Schools and Colleges of Optometry (ASCO) and the publication of its journal can be seen as providing as close to a combined or coordinated voice for optometric education as has ever been available. As one school chief administrator put it:

There is a lot of debate, a lot of interchange, a lot of activity going on now that's going to pay off high dividends to the profession, because now education is sort of leading the pack in terms of new development. Whereas up to now, it has always been the profession--members in the field--

that have been stimulating the schools, I see a major change in the last ten years. The people who are involved in education today are more imaginative, more aggressive, more forward looking and future-oriented than the people in the associations. Ten years ago that wasn't the case. Ten years ago, it was much more the people in the associations who were thinking of the future, and the school people were only concerned about doing their thing in a little vacuum in the ivory tower and producing optometrists that fit the mold of the professionals already in existence. (Chief administrator, male)

Federal Legislation And Its Impact

This report has stressed the importance of the federal government and federal legislation to optometry. Federal financing enabled optometric education to expand just as cutbacks in federal financing necessitated the Havighurst Report, the comprehensive examination of the educational system and its potential for the future. The availability of federal loans has a direct bearing on who can afford optometry school and hence enter the field of optometry. Restrictions on optometric services within federal health legislation has a direct impact on the location, level, and quality of optometric care provided citizens. Lastly, the level of participation that optometric services and optometrists will be allowed in any national health insurance package will have a vital impact on the very survival of the profession. Thus it is safe to say that the federal government and federal legislation has influenced and will continue to influence the structure, approach, composition, and practice of the profession of optometry.

IV. PROFESSIONAL EDUCATION

INTRODUCTION

As much of the previous section suggests, optometric education has undergone some rather significant changes over the last few years. Advances such as increased enrollment and expanded facilities have been accomplished with the assistance of federal funds as has research and development. The spectre of an end to federal funding helped bring to fruition the Havighurst Report, a long desired examination of optometric education modeled on the Flexner Report.

The inconstancy of federal support may also have been instrumental in forcing the schools of optometry to organize and support a stronger Association of Schools and Colleges of Optometry (ASCO). ASCO is attempting to coordinate the efforts of the individual schools and to provide a clear voice for optometric education.

Recent events may also have tended to bring the schools closer together. Where previously the university schools and freestanding schools may have operated under different and mutually exclusive goals, today there is a recognition of the necessity of both types. Thus the university schools will continue to assume the major research responsibilities for the profession and will provide its academic leaders. Freestanding schools will continue to provide the bulk of the practitioners and will promote the continued professionalization of optometry.

Lastly, the impact of federal regulations and societal changes has tended to rearrange the optometry student population. Women and minorities represent an increasing proportion of optometry students. One continuing issue will be the accommodation of these students while they are attending school, but more importantly when they graduate and assume their places within the profession.

OVERVIEW OF THE ORGANIZATIONAL TRAINING NETWORK AND FUNCTIONS

The following is a glossary of organizations which have a direct impact upon optometric education.

- Association of Schools and Colleges of Optometry (ASCO). The association of optometric educational institutions was incorporated in the 1940s, but has only recently been staffed and operating. ASCO has a journal, The Journal of Optometric Education, and a monthly newsletter, "Educator". ASCO also serves a liaison function to the legislative arm of the American Optometric Association (AOA).

Among ASCO's standing committees is the OCAT (Optometry College Aptitude Test) Committee. Although the test is administered by an independent organization, the committee passes on issues surrounding its use and focus. The committee is currently chaired by a non-OD woman. ASCO also has established three Councils (Academic Affairs, Student Affairs, and Institutional Affairs) to assist in its operation.

- Council on Optometric Education (COE). The accrediting arms of the profession of optometry. The COE along with the National Commission Accreditation was responsible for the Havighurst Report. The Council may assume responsibility for optometric residency programs as they begin to proliferate in the future. COE is part of the AOA.
- American Optometry Students Association (AOSA). The political arm of optometry students. AOSA chapters vary in size and importance depending on the school. AOSA was an important element of internal student government and external student affairs at one school visited during the study. At another school, it was mentioned only in passing and obviously was not important to the student body.
- American Optometric Association (AOA). The national arm of the profession, still the most important single entity within optometry.

THE SCHOOLS

The opening of the Ferris State College of Optometry in Big Rapids, Michigan in September, 1975 brought to 13 the number of schools of optometry operating within the US. It also marked the third new school of optometry established since 1970. All three are public institutions with the University of Alabama

at Birmingham School of Optometry included in the health science center of that university, the first school of optometry so situated.

Five of the schools are freestanding private institutions, seven of the schools are part of public colleges and universities, and one of the schools is part of a private university. As mentioned earlier, the institutional structure of the schools often affects the philosophy of and approach to optometric education. While the establishment of each school of optometry was vigorously fought by the local medical society and vigorously championed by the local optometric association, the schools themselves are often quite different because of this.

Those schools tied to universities usually evolved out of the physics department. The flow of this evolution was normally to establish a course in optometry, then a program of optometry, then a department of optometry, and finally a school of optometry. The university schools often retain their academic roots. Research and graduate study are emphasized. Tenured faculty are expected to have both an OD degree and a PhD in physiological optics, the traditional professional graduate degree. In these settings, private professional practice is not the primary focus of either the faculty or the administration. Historically, the university schools considered their programs to be academically superior to the freestanding schools.

The freestanding schools, as a rule, were established earlier than the university schools. The last currently operating freestanding school, Southern College of Optometry, was chartered in 1932. The freestanding schools have traditionally been dedicated to turning out the practitioners and to promoting the interests of the profession of optometry. In 1975 the enrollments of the five freestanding schools represented 60% of the combined enrollment of all operating US schools of optometry. The freestanding schools are not as dedicated to research, nor are their faculties comprised of OD/PhDs. Traditionally, the freestanding schools could not boast of their academic credentials. However, because of their relative freedom and flexibility, as one administrator put it, freestanding schools could "turn on a dime" and establish new policies and procedures which would be impossible in the bureaucratic setting of a major university school. In

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recent years the traditional animosity which existed between the freestanding and university schools has somewhat dissipated even though some of the old competitiveness survives.

As might be expected, the costs of optometric education vary depending upon the type of school. The public schools have residency requirements, and tuition varies as much as \$1,500 depending upon residency status. The tuition range for public schools is from \$286/year to \$2,191/year. For the private schools, residency is irrelevant in all but one school (the most expensive). The tuition range for freestanding schools is from \$2,885/year to \$7,012/year.

Earlier in the report, mention was made of the increase in both applicants and enrollments. In 1971 there were approximately 2,500 applicants for 900 places in the colleges of optometry. This ratio of 2.8 to 1 applicants per place was even greater than the 2.1 to 1 ratio for colleges of medicine registered in that same year. (19:82) The applicant to place ratio for the 1974-75 entering classes of the schools of optometry included in this study was 7.6 to 1. Observers attribute this increase to the general explosion in interest in the health care fields. As one administrator put it: "About three or four years ago the college generation discovered the health sciences and the number of applicants increased unbelievably." Schools went from a rather open admissions policy to real admissions crises, necessitating the creation of the OCAT and other measures. As the administrator put it, "Suddenly, instead of 100 applicants, we had 500."

The credentials of these applicants also increased. According to one administrator we interviewed:

The students of today far surpass those of only ten years ago. Today's 3.0 looks like the 2.2 of yesterday. The mean GPA of our first year class is 3.1. That would be unheard of even five years ago.

The proportionate increase of female applicants and enrollees has been even more dramatic than the overall increase. During 1974-75, 351 women were enrolled in the colleges of optometry. This is almost as many women as there were in active practice. At the same time none of the administrators we

spoke to suggested that any special consideration was given to women. One administrator told us:

The women just began showing up more in the pool; they competed favorably and were accepted. We did nothing special--it was just the times. (Chief administrator, male)

This is an interesting point because, when asked why women stopped being represented in the past, most male and female respondents suggested that when "they began to upgrade the admissions requirements," the women just stopped. But during the most arduous applicant boom in its history, optometric education has experienced a fourfold increase in female enrollment since 1970.

THE PROFESSIONAL TRAINING SEQUENCE: MAIN STEPS, REQUIREMENTS AND CRITERIA, KEY FACTORS

The optometry curriculum as it now exists took decades to evolve. Today four years of professional education are required to attain the terminal degree of Doctor of Optometry (OD). Present entrance requirements are from between two to three years of pre-professional education, although most first year students do have a bachelor's degree.

The following sequence represents the optometric professional training process as observed in the study:

- Recruitment
- Application
 - Requirements
 - Admissions Test (OCAT)
 - Grade Point Average (GPA)
- Admissions
 - Screening (OCAT, GPA, recommendations)
 - Interviews (interest)
 - Selection
- Pre-Clinical Training
 - Basic Sciences
 - Professional Sciences
 - Professionalization
- Clinical Training
 - General
 - Specialty

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- Postgraduate
 - Residency
 - Graduate work
 - Placement
 - Continuing education
- Licensure, Certification
- Political Action

Recruitment

The profession, through the AOA, has been conscious of the need to attract students to the profession. This is especially true of women and minority students. In 1968, the AOA in concert with the Women's Bureau of the US Department of Labor, developed a brochure aimed at attracting women into the profession. In 1972, acting on a survey of women practitioners which revealed that, almost unanimously, they would be willing to counsel women to enter optometry, the AOA established a special referral service. Under this service young women making inquiries to the AOA are referred to a woman optometrist who lives near them for counseling.

Both of the above efforts are important recruiting measures. However, no women students we talked with had either seen the brochure or been in contact with a woman optometrist. This may be because people do not usually contact the national association when inquiring about entering a profession --rather, they contact the individual schools. Neither of the schools we visited participated in either handing out the brochures or in referring inquiring women to women practitioners. If the schools were involved, we believe the response might be greater.

Individually, the schools are involved in recruitment. One of the schools we visited has a minority recruitment program. In past years it included recruitment of women in its activities, but recent increases in female applicants and enrollees had made the efforts superfluous. The other school was involved in informal recruitment through contacting pre-med advisors and visiting schools on career days. Women were not specifically recruited, nor were women used as individual recruiters. Both schools were concerned with

the residency status of their students. Eighty percent of the students at one school are state residents, while the other school limits its student body to students from a general catchment area.

Application

There is no centralized application service in optometry. AOA and ASCO do publish a brochure entitled, "Information for Applicants to Schools and Colleges of Optometry." This brochure outlines both the general and the individual school requirements.

Pre-Optometric Course Requirements

In general applicants must have finished two years of pre-optometric college work. One school requires three years of college work, and in fact most entering students have attained their bachelor's degrees.

In general students must have completed one year of biology, general chemistry, physics, and English. Nine of the schools require organic chemistry, 12 require general psychology, two require college algebra and trigonometry, ten have some form of calculus requirement, four require microbiology or bacteriology, two require comparative anatomy, one physiology, four statistics, and 12 social sciences. (2:13)

Optometry College Application Test (OCAT)

The OCAT was developed in 1972-73 to assist in admissions. Next year (1976-77) will be the first where all schools of optometry require the OCAT in their admissions process. The OCAT has six parts and tests verbal ability, quantitative ability, biology, chemistry, physics, and study-reading ability. One admissions officer we interviewed considers the OCAT biology score a more useful indicator of science aptitude than the more professionally relevant physics score since many non-physics majors have not yet completed their physics course at the time they take the OCAT. Biology scores are particularly useful in comparing men and women applicants for this reason since men are more often likely to be physics majors than women.

The OCAT is given three times a year in November, January, and March. The cost is \$20 and that entitles the announcement of scores to three schools. Additional announcements cost \$2 per school.

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Like other entrance exams in the health professions, the OCAT is a reasonably valid predictor of pre-clinical skills. However, it is not a good predictor of clinical performance. As Flom found:

In composite, the personality of the highly rated student in optometry clinic is marked by self-confidence, intellectual ability, and social responsibility. The findings support the hypothesis that performance in optometry, as in other professions and higher education in general, is far more related to personal qualities than preprofessional academic achievement. (15:103)

The OCAT tests academic performance rather than personality, and as such is not a good indicator of clinic professionalism. Certain non-cognitive testing methods are being considered to assist in the selection process.

As mentioned earlier, there does not appear to be much overlap between students who take the OCAT and those who take the MCAT. Students in our study who took the OCAT did not find it overly taxing. The weight given OCAT scores in admissions varies from school to school. Of the two schools visited, one stressed OCAT scores while the other did not. Tentative statistics on the relative performance of men and women appear to suggest that women do better on the OCAT science sections than they do on the MCATs. However, no definitive analyses have been made as yet.

A final note on the OCAT is that it can be beaten. Evidently testing assistance services have sprung up to assist students to perform well on the OCAT. They are apparently successful enough to make some observers, students included, call for a revamping of the OCAT system.

Grade Point Average (GPA)

Grade point average is a crucial admissions element as is the originating college or university. For the 1974-75 entering class, mean GPA scores varied among the schools from a low of 2.69 (only one school had a mean below 3.0) to a high of 3.43. The range of GPAs of successful applicants went from 2.03 to 4.0. The university schools registered higher mean and range GPAs than the

freestanding schools. As previously mentioned, most entering students had attained their bachelor's degrees.

Admissions

The admissions processes at the 13 optometry schools vary considerably. Where possible, differences will be noted within the three admissions categories of screening, interviewing, and selection. The discussion will be structured around two general admissions models.

Screening

The schools must perform a general screening function to pare down the initial mass of applications to a manageable number. The methods for achieving this vary. One model is for the screening to be handled by admissions office administrators. An admissions committee might exist to assist the office in setting criteria for selection but would not participate in the actual process of screening. The committee may include students. The study found one such committee that was chaired by a woman faculty member.

Screening decisions are made on the basis of grades, OCAT scores, and professional recommendations. In addition consideration is often given to recommendations from alumni. There is often no clear cut determining factor. High OCATs and low grades or vice versa will merit further consideration. High grades and high OCATs with good recommendations may merit acceptance without an interview.

Another screening model involves a more significant role for the admissions committee. Such committees are often staffed solely by faculty. Hence, the presence of women on the committee is controlled by the presence of women on the faculty. Prior to the OCAT test, only the GPA of the student would be considered. Special weighting was often used to distinguish the college from which the applicant was applying. Recent increases in the applicant pool have probably complicated this type of screening model. Letters of recommendation, OCAT, and the applicant's outside interests and biographical statements on the application are probably considered.

The process of screening is for each applicant's file to be read by a member of the committee. The file is judged as one faculty member put it, "by whatever guidelines the reader wishes to superimpose." Student demographic characteristics such as age, sex, and race are given whatever weight the reader wishes since nothing is standardized. The same faculty member believed that maturity is an important factor in professionalism and, accordingly, gave the older students higher ratings. When the study was conducted, there was only one reader per file at this school. Future plans are to have several readers for each file to arrive at a combined score. As it is, one reader's comments could make or break an applicant's chances.

It should be noted that screening was the most critical element of the admissions process. This is true because screening and admissions often represented the same effort as the following discussion will demonstrate.

Interview

Nine of the 13 schools and colleges of optometry require interviews of incoming students. (2:12) In at least one school the failure to interview causes a decided problem. The fact that the interviews are not conducted at the school--that almost everything hinges on the grades and test scores of the individual applicant--creates an interesting atmosphere at the school. The successful practice of the profession requires communications skills and the ability to extract adequate data from the individual patient. Many students have various communications problems which the curriculum does little to address. Hence some students have excellent academic records and poor clinical records.

Many students, most of them male, apparently are critical of the admissions process which they see as unable to screen out people not suited for private professional practice. They resent the school's focus on academic research and feel this results in a professionally unqualified student body.

A number of the men interviewed believed that the women students were among the unqualified. In addition, the female group and individual interviews included many statements suggesting that significant problems for women were presented by their male associates. This was especially true in the classes which have larger female enrollments. Five first year males came to one group interview we conducted with many assumptions about women in general and professional women in particular. They made numerous statements about the competence of women and their dedication to the profession. These men felt they were justified in part because of their knowledge of women and in part by their knowledge of the admissions process at the school and its inability to weed out professionally unqualified applicants. Their "she took the place of a man" argument was bolstered because "she" represents a person who wasn't adequately screened by admissions.

At the other school visited, interviews, while not required, serve an important function in the admissions process. There almost all entering students are interviewed. Of the five to ten percent who are not, most have superior academic qualifications. Since interviews are not required, the whole process is seen as a test of motivation. Students are encouraged to request interviews. Such a request is felt to represent an interest over and above merely filling out forms. The main interviewer revealed that he "looks for optometric potential" in an applicant. He went on to say, "How interested are they? Is optometry their first interest or just a back up?" As one male student suggested in a group interview, "If a person applies to schools in more than one profession, it may hurt his chances for acceptance into any profession."

It also is apparent that the admissions officer is committed to finding and turning out people who can relate well to others. When asked what he feels is the model of a good optometrist, the admissions officer replied:

*A person who relates well to people, who is committed not only to solving vision problems but is humanitarian and goes beyond the pair of eyes. The ideal optometrist is one who is involved beyond his own practice, who is involved in community affairs or teaching or research--one who tries to advance the profession.
(Admissions officer, male)*

Selection

At both schools selection is the role of admissions administrators rather than admissions committees. As one administrator put it:

This may be going against the tide, but it is the way I see admissions. I believe that admissions work should be done by professional admissions people. (Admissions officer, male)

In both cases this means exclusively male administrative decision-makers.

Pre-Clinical Training

The two schools differ somewhat in their pre-clinical emphasis. One school is more traditionally oriented to biological sciences; the other is more oriented to the physical sciences. After years of limiting the clinical exposure of their students to the last two years, both have introduced some clinical experience in the pre-clinical years. One school allows its students to "observe," while the other offers them a more active participation. The most significant difference between the pre-clinical curricula of the two schools is in professional emphasis. One school stresses practice management, the history of optometry, and a course in interpersonal relationships. Students are heavily socialized into the practice aspects of optometry and are encouraged to become "politically involved" in promoting its interests. While the other school provides courses in practice management, it does not stress the practice aspects of optometry over its research aspects--at least not in the pre-clinical years.

At both schools, the pre-clinical years are considered to be difficult by both students and faculty. One female faculty member revealed that many male students complain to her about the pressure they face during the early didactic oriented years, but women do not. In fact the only difference she saw between the male and female students is that

The boys seem to complain more and tell me and the other women in the department [biological science] about their problems. The women seem to know that there are good times and there are bad times, and they seem to take them philosophically. (Basic Sciences faculty, female)

Other observers offered comments about the performance of the women. One chief administrator said:

They [the women] tend to be brighter, I think, but that is probably because there has always been such a small sample. And they were probably exceptional female students to get in in the first place, so they were exceptional students and they just stuck out because they tended to be better. There have been exceptions, I'm sure, but I don't...it's funny, I'm not saying this to prove that I'm biased in this or anything, but I've never really thought about it. I guess if I had to look back, they have tended to be more outstanding, but then again, I'm a male and maybe I would look at them with a quizzical eye and find out yes, that they were doing a very good job. I believe they think that they are better than the average male student. I don't know what the average male thinks. (Chief administrator, male)

Clinical Training

Students are provided with a full clinical experience in optometry. For the most part, the clinics are located at the schools themselves. Often there are also satellite facilities which serve the broader area. These may either be administered or closely monitored by the schools. There are two basic elements to clinical training--the general clinic, where students handle general cases--often on a drop-in basis--and specialty clinics such as contact lens, low vision, and pediatrics which are handled on a more structured basis.

There are two basic issues about clinics which students generally complain of at one or the other school. First is the question of speed of patient care. The clinics often generate revenues for the school and to maximize income there is often some pressure placed on students to go faster. In fact, some students race through exams to please instructors, but as one woman put it:

What they are really doing in clock watching is compromising their education for the sake of a good evaluation. (Third year student, female)

One man felt that:

My concern for my patient should be uppermost, but the clinicians don't really seem to care about anything but speed. (Fourth year student, male)

The problem with clinicians is part of the second major complaint students have about clinical training. Administrators told us it is often difficult to attract the highest quality clinical instructors because of the difference between what an optometrist can earn in private practice and what a clinician earns. Also, students were heard to complain about the lack of experience in enough areas to truly prepare them for practice. As one student put it:

Some conditions I only know through books and not through actual experience in the clinics. (Fourth year student, male)

Other students echoed these sentiments.

While the women interviewed told us that they were subjected to some unfair and discriminatory experiences in clinics, they almost unanimously agreed that the clinical years were not taxing and if anything were quite easy. Comments like "I have time on my hands" or "I don't know what to do with my free time" were heard from women. Also a few women revealed that they were employed during their clinical years. The men we interviewed neither spoke of outside jobs nor of the relative ease of the clinical years.

Postgraduate

As the Havighurst Report puts it:

Graduate education in schools of optometry can be divided into two broad areas: 1) academic graduate work leading to the MS and PhD degrees, and 2) post-doctoral training leading to specialization and potential certification. In the first type of education, the goals are the education and training of future optometric educators and researchers. In the second type, the goals should be the education and training of optometrists with advanced and specialized knowledge in specific areas such as low vision, contact lens practice, vision therapy (visual training and orthoptic training), developmental vision, geriatrics, and pediatrics. (19:70)

We will treat each type separately.

Graduate Academic

In 1972, there were 46 graduate students in the six university schools then in existence. The Havighurst Report surmised that the level would produce 15 MS degrees and five PhD degrees per year. The graduate work in question involved advanced work beyond the OD degree in physiological optics, physiology, psychology, physics, mathematics, biophysics, and bio-engineering. It is carried on mainly at the university schools because they have the necessary resources.

A graduate academic degree is required for faculty status at some of the optometry schools. The issue is most important at those university schools which train graduate students. The chief administrator at one of the schools said about graduate degrees:

In the past, in the optometry schools in universities that didn't grant OD degrees (and it is only since 1968 that all schools have granted the OD degree), the PhD degree was seen as more important. This was a complete reverse of the medical school where the MD is always considered superior to the PhD. Today, the OD degree is a fine degree, at least equal to a PhD.

The OD/PhD certainly has more potential, but so few of them are being turned out. What's more important is that people are getting advanced degrees in fields other than physiological optics which can expand the potential for vision research. Unfortunately, it may be difficult for those people to get on the tenure line at some of the universities. (Chief administrator, male)

The need for an OD/PhD is the usual reason given for not having women or minorities within the tenured faculties at the university schools. During our field research we learned of two women in PhD programs in physiological optics. As one clinician put it:

If there are 12 optometry schools, they will probably have 12 offers, or 13. (Clinical faculty, male)

In a sense the issue is a shortage of supply rather than demand. However, since the demand for women faculty is apparently increasing, there should be some efforts undertaken to recruit the brightest and academically best women into graduate programs to meet the demand. We found no evidence of such recruitment in our research.

Graduate Professional

As discussed earlier, a movement toward specializing or emphasizing in professional practice has been growing. Specialty residency programs have begun developing both at the schools and at other training centers. While these residencies are still in a nascent phase, the Academic Council of the Association of Schools and Colleges of Optometry felt it was time to set guidelines for acceptable programs. They are as follows:

1. Resident should be a graduate from an accredited School or College of Optometry.
2. Residency programs should be at least one academic year in length.
3. A residency program should be a full-time endeavor, as defined by the institution.
4. Resident stipends should be unencumbered and the resident should not be obligated to work for the school or college to receive his full stipend.
5. Residency programs should be patient-care oriented but should include didactic as well as clinical training.
6. Residency programs should be accredited by an appropriate optometric education accrediting agency.
7. There should be some internal on-going evaluation program to assess the vitality and growth of the program.
8. A certificate of completion, rather than a degree, should be awarded to the resident on successful completion of the residency program.
9. A formal admissions process would be required for any residency program.
10. Standards for accreditation of such residency programs should be consistent with those published and accepted by the Council on Optometric Education. (3)

When considering the problems other emerging professions have had in establishing their residency programs, these are an excellent beginning. Numbers four and nine are especially critical. Students

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in some of the other MODVOPPP professions' residency programs often feel exploited by their programs and also are quite critical of the less than objective standards often used in residency admissions. It should be realized that none of the students interviewed during the study had intentions to seek a residency. Recent developments may change this. In August, 1975, an optometry residency was established with a Veteran's Administration Hospital and others are expected to follow. The goal is to have all schools affiliate with their nearby VA hospitals. While this is an exciting development for the profession, it may have negative impacts on women. This is because our study learned of problems that women health professionals face in VA hospitals. In a discussion with a medical resident in a VA hospital, the question of the problems women face in VA hospitals came up. He replied:

There are no women on my service, but by observing other services I can safely say that it would not be a pleasant experience for her if there was one. (MD resident, male)

Any optometry programs set up should be sensitive to this issue that, while the armed forces are indeed becoming sexually integrated, the medical corps may not be quite as accommodating.

Placement

Employment is a consistent concern of students. Associateships with established optometrists appear to be the most sought after positions. Certain students establish relationships while in school, but the most widely practiced style is apparently to wait until graduation.

Neither school visited had an established placement office, but both suggested that optometrists seeking prospective associates often contact the school. Such informal systems of placement can be discriminatory if the school acquiesces in the desires of the inquiring practitioner to only be referred white males.

The students at one school suggested that past placement activities had in fact reflected a tendency to accommodate the discriminatory wishes of optometrists. The administration revealed that it had discontinued them, but no active placement program will replace it.

Such practices may run afoul of Title VII of the Civil Rights Act of 1964 and Executive Order 11246. They may also have in the past resulted in forcing women graduates to accept less prestigious or professional positions with ophthalmologists. What appears to be in order at all of the schools is the establishment of formal placement offices which have the responsibility not only of refusing to make discriminatory referrals but also of encouraging practitioners to accept associates on the basis of their qualifications rather than their sex (or race). Anything less is a disservice to the women (and minority) ODs and the profession they are seeking to serve.

Continuing Education

With the revision of the practice acts and the development of new technology and techniques, continuing education has become a major issue in optometry. As the Havighurst Report states:

Optometrists may participate as students in continuing education courses so as to keep their practice up-to-date. They may also do so simply to qualify for renewal of their licenses. As of 1972, 23 states required completion of continuing education courses as a basis for renewal of licenses. The amount of such required instruction varies from 12 hours to 24 hours of lectures or instruction per year. (19:36)

This trend is expected to continue, especially considering the re-licensing requirements for use of diagnostic drugs several states have set up. The AOA supports efforts to expand continuing education. The following resolution was adopted at the 1972 AOA convention by the AOA House of Delegates:

Whereas, an objective of the American Optometric Association is to promote continuing education to enable all optometrists to keep pace with and utilize current scientific professional and technological advances in vision care, now therefore be it

Resolved that the American Optometric Association encourages all affiliated associations to seek amendments to their existing statutes which would require continuing education as a prerequisite for license renewal. (19:37)

An important continuing education issue is the re-training of optometrists who have been inactive but have not retired. A common charge against women is that they drop out of practice to raise children. Some observers feel that optometry, since it can be practiced in the home, does not present the practice difficulties of other professions. Hence there is no reason to assume that women must leave active practice to raise families. Even though, a common charge voiced against women in optometry is that they drop out. No data is available to substantiate this observation. However, if it is so, then special continuing education efforts should be developed to assist women and others in returning to practice after a period of time. At the same time some research should be conducted to determine the reasons women are inactive. Our study suggest that the reasons may not only be that women are choosing to raise families but also that they are often unable to find adequate employment due to the resistance of established practitioners.

Licensure

All states license optometrists. In 1939, Wyoming's statute brought to 51 the number of jurisdictions doing so. Optometry boards range from three to seven members. Only California requires one public representative on its six-person board.

To be licensed a person must be a graduate of an approved school or program. Only 19 states allow for licensure of persons educated outside the US. Examinations are provided for in all states with fees ranging from \$15 to \$100. Licenses are for one or two years.

Examinations are required in all states. Practical exams are required in all but two states--Alaska and Kansas--while oral exams are required in 33 states and written exams in all 50 states (as of 1967). Many state licensing

laws have not been tested for what they permit, while others have recently been changed to accommodate new privileges. Optometry students often are required to take the National Board of Examiners in Optometry test twice during their school careers. This test sometimes suffices as the written portion of their licensing exam (13 states so allowed in 1968). (14:91)

One final point on licensure is that the oral and/or practical elements of some licensure exams may be unfairly administered. The issue of obtaining a license did come up in discussions with women. Some mention was made by women who had heard of unfair badgering of women. There were no allegations that women were denied licenses, just treated poorly. Such claims were never substantiated, and the study team would disregard them except that they originated from many sources.

Political and Professional Action

As mentioned earlier, optometry students appear to register a high level of concern for their profession. One woman student observed in a group discussion that the most important characteristic an optometrist can display is:

Being politically active in promoting the profession to the general public, the state legislatures, and especially the federal government. (First year student, female)

The Havighurst Report surveyed third and fourth year students in 1973 to ask how they would participate in community activities after graduation to promote the profession. Two hundred and thirty-one (231) students responded with the following results:

TABLE 9

STUDENT ACTIVISM IN OPTOMETRY: 1973

	Percent
<i>In what ways do you see yourself participating in professional and community activities after you graduate, to enhance the status of optometry?</i>	
1. Student expects to be especially active in local community affairs concerned with vision or eye care (clinics, screening programs, speeches, etc.).	.19
2. Student expects to be visible in community affairs, partly as a means of enhancing own practice, or is vague but well-intentioned about community service	.6
3. Student says s/he will be active in community affairs, and will maintain an ethical practice.	.19
4. Student says s/he will maintain an ethical practice.	.12
5. Student suggests s/he will engage in professional affairs without clarity of emphasis. May speak about inter-professional relations	.9
6. Student says s/he expects to be active in state and national professional organizations.	.10
7. Student says s/he will be active in his/her local community (as in #1 or #2 above) and in national or state professional organizations	.26
SOURCE: <i>Havighurst Report</i> , p. 35.	

Current optometry students appear to have maintained the level of professional commitment identified above. If anything, they have expanded it. Students are knowledgeable about the issues confronting their profession and appear willing to promote its best interests.

On the other hand, the schools spend a considerable time in socializing the students not only to optometry but also to professionalism and professional

practice. As one administrator put it when asked what traits a student should exhibit for him to feel s/he was becoming professionalized:

I think the student would have an attitude of self-reliance, have an understanding of the responsibility of being a health professional--to the community, to himself, the rest of the profession--feel that he or she is part of a profession that is dealing with patient care whose principal responsibility is to the patient. The way a student might behave as a result of that would be further involvement with some of the student activities related to the profession of optometry. The American Optometric Student Association--a very massive organization--does absolutely everything with and for the profession of optometry. That particular group has as one of its objectives the relaying of information, the setting of models and so on for students to follow.

I know the kinds of things that I would expect. I expect people to be responsible, I expect them to have a great deal of confidence in their skills. I expect them to cooperate with other professionals. I expect them to be civic-minded and things like that. Those are the models that I have in my head. That's from my own experiences. As far as I know, there are no written models...that says that one person is more professional than the other or that if you don't meet one of these criteria, you're unprofessional. (Dean of Academic Affairs, male)

V. OPTOMETRY STUDENTS

WHAT THE PROFESSION IS LOOKING FOR IN NEW MEMBERS

Apart from the usual characteristics sought in a MODVOPPP professional--intelligence, motivation, aggressiveness--it appears that optometry may be concerned with other character traits. Paramount among these additional traits seems to be the ability to communicate with and relate well to others. During an optometry examination, while performing orthotic training, and while working in low vision care, optometrists must be able to communicate with their patients. They do not have pain, X-ray or lab analyses to assist them in their diagnosis. They must be able to secure and transmit the proper information from the individual patient to succeed at their work. The following comments from students, faculty, and administrators bear out this important point. One third year man said:

It's said often enough. I've heard this from faculty a number of times--the importance of being good at interpersonal relations. They'll tell you that they've seen guys who were honor students through this school but when they got on the outside, they folded because they didn't know how to get up any kind of rapport with patients. Of course, if you can't do that, you can't get a practice going. So that's another reason why that's a very important part of it--the patient. (Third year student, male)

And a third year woman said:

The first year we were here they told us that something like 80% of your success in practice is how well you get along with your patients. The other 20% is just your skill. (Third year student, female)

A third year man attempted to provide a different perspective.

There is one thing to remember about what they're doing [in setting up a course on interpersonal relations]. We're in a field that is not like a number of areas in medicine, for instance, where somebody comes in and there's something obviously structurally wrong, like a cut arm or an obvious cold. A lot of the things that we have to deal with as optometrists are related to psychometric binding. Subjective reports from the patient are key. You have to be able to relate with the person that's sitting with you. (Third year student, male)

Finally, an administrator had this to say:

Optometry is a peculiar member of the health profession in that it calls for a physioist and a mathematician who is also a considerable psychologist. And that's perhaps rare. Generally you'll find that people who do well with the hard sciences don't do well with the social sciences and yet, here we have these two very diverse kinds of fields that are called upon. You must have the scientific skills. They're critical, they're just not sufficient.

While communication skills are considered vital to successful practice, interviews to discern a student's communication skills often are not required in the schools.

Another important point that consistently surfaces is that a good optometrist is one who goes beyond his or her own practice and promotes the profession. The growth of the profession has largely been achieved by the organized efforts of the various associations. Many of the schools are directly and intimately involved with the profession and appear to communicate to their students the importance of supporting the profession and pushing it forward. As mentioned in the last section, the profession is looking for people to promote its interests and often selects them on that basis as well as on the basis of communication skills, motivation, intelligence, and aggressiveness.

WHO THE STUDENTS ARE

Demographic Characteristics

The Havighurst Study conducted a major survey of optometry students in 1973. The data as published is not normally displayed by sex. There are also several publications which have demographically compared the students in health professions schools.

Optometry students appear as a group to be among the youngest of the MODVOPPP students. In 1970-71, 42% of optometry students were married. Only pharmacy had a lower percentage of married students with 31%. (6:11) The fact that entrance to optometry school requires only two years of college, while other schools require more could account for this difference. Current data suggests that a higher percentage of entering optometry students have

bachelor's degrees, and this may change the statistics. Our study group does support the 1970-71 study. The average age of entering optometry students for the women was 21 and for the men was 22. One-third of the men and women were married when the study was conducted.

The backgrounds of optometry students are similar to those of other health professions students. Nine per cent of optometry students have fathers who were themselves optometrists. Only medicine (15%) and osteopathic medicine (11%) have higher percentages. (6:6) During the study negative comments about students whose parents were optometrists were frequently heard. As one first year woman put it:

There are a few marginal people here who got in because their fathers are optometrists. We haven't had tests yet, so it hasn't caught up with them, but it will. (First year student, female)

Two of our study participants, one man and one woman, had fathers who were optometrists. Both, however, were known to be exceptional students.

With regard to socioeconomic status, optometry students along with pharmacy students tend to come from families with incomes similar to those in the population at large and generally lower than those of other MODVOPPP students. As of 1970, 58% of optometry students, 78% of pharmacy students, and 78% of the general public are from families that had incomes of less than \$15,000. (6:5)

Optometry students had the third lowest financial burden (\$5,251/yr) of MODVOPPP students. Only pharmacy (\$3,739/yr) and veterinary medicine (\$4,473/yr) had lower average annual school and living expenses. (6:10)

The Havighurst Study surveyed the students of 1973 to learn how they financed their education. Table 10 shows the response.

Our study attempted to elicit some information from students on how they financed their education. Using a total of 23 students, the results in Table 11 were obtained.

TABLE 10
FINANCING STUDENT EXPENSE
PRINCIPAL METHODS STUDENTS USE TO PAY FOR THEIR OPTOMETRIC TRAINING
(BY PERCENT)

SOURCE OF INCOME	PROPORTION OF EXPENSE COVERED	
	ONE THIRD OR ONE FOURTH	ONE HALF OR MORE
	PERCENT OF STUDENTS	
Family Assistance	10.0	25.1
Part-time or Full-time Work	23.4	8.6
Spouse Working	7.8	22.8
Personal Savings	14.5	7.0
Government Loan	20.4	15.4
Family Loan	6.2	8.8
Other Loan	7.4	2.4
Scholarship Grant	9.5	2.0
Student Aid Funds	1.7	0.1
Government Stipend	4.3	2.8

SOURCE: Havighurst Report, page 85.

TABLE 11
STUDENT FINANCING BY SEX: 1975 URSA STUDY

	Males (11)		Females (12)	
	Over 50%	Under 50%	Over 50%	Under 50%
Parents	5	1	2	3
Spouse	2		1	1
Self:				
Savings	2	3	1	4
Work Study		3		2
Summer/Part Time		3		2
Loans	2	2	6	1
Scholarships		1		2

SOURCE: Data from Urban and Rural Systems Associates Study of "Women in the Health Professional Schools."

As Table 11 indicates, the greatest single source of funds for responding males was their parents, while loans comprised the greatest single source for females. While Table 11 may not be representative of the entire profession, Table 12 comparing loans and scholarship recipients across the MODVOPPP professions has some interesting implications for optometry.

As Table 12 indicates, optometry is the only profession where women receive a lower proportion of loan funds than their percentage representation (3.6% of enrollment, 2.9% of loans). Moreover optometry is the only profession where the percentage of women students receiving loans is substantially less than the percentage of men students receiving loans (30.6% of women to 41.9% of men). It should be recognized that the proportion of women in optometry schools has more than doubled since the data upon which Table 12 is based were gathered (3.6% in 1970-71 to 9.5% in 1974-75). It is quite possible that this disparity no longer holds but the situation may warrant further study.

TABLE 12
COMPARISON OF RECIPIENTS OF FEDERAL LOANS AND SCHOLARSHIPS
BY SEX AND PROFESSION: 1971-72
(BY PERCENT)

1971-72	TOTAL	MEDICINE	OSTEOPATHIC MEDICINE	DENTISTRY	VETERINARY MEDICINE	OPTOMETRY	PODIATRY	PHARMACY	PUBLIC HEALTH
Women Percent of Total Enrollment ^a	-	10.8	3.4	1.9	11.5	3.6	1.3	24.9	N/A
% Scholarships for Women	13.7	13.1	4.6	2.1	9.9	4.1	3.4	29.2	N/A
% Loans for Women ^b	11.4	12.6	4.3	2.2	11.3	2.9	1.4	26.2	N/A
Total Scholarship Recipients^b									
	Total	M	O	D	V	O	P	P	P
% Women Receiving Scholarships	23.2	23.5	44.7	24.1	20.4	30.6	80.0	22.9	N/A
% Men Receiving Scholarships	22.0	20.0	35.2	24.3	25.0	29.2	27.0	20.2	N/A
Total Loans Recipients^b									
	Total	M	O	D	V	O	P	P	P
% Women Receiving Loans	28.2	38.4	57.6	41.8	30.1	30.6	46.7	18.7	N/A
% Men Receiving Loans	32.8	34.4	49.6	39.2	31.7	41.9	38.5	19.2	N/A
SOURCES: ^a<i>Women in Health Careers: Status of Women in Health Careers in the United States and Other Selected Countries, Chart Book for International Conference on Women in Health, The American Public Health Association, 1975.</i> ^b<i>Recipients of Health Professions Loans and Scholarships, 1971-72, United States Department of Health, Education and Welfare.</i>									

Reasons For Being Attracted To the Profession and General Influences On Decision To Enter

The Havighurst Report surveyed students in optometry to determine the major forces influencing their decisions to enter optometry. Table 13 details the results of that survey.

TABLE 13	
PERSONS WHO INFLUENCED STUDENTS TO CHOOSE OPTOMETRY 1973	
PERCENT OF RESPONSES FOR EACH TYPE OF INFLUENTIAL PERSON	
<u>Person</u>	
Family Optometrist.....	18
Father.....	10
Mother.....	3
Other Relative.....	4
Classmates.....	7
Friend.....	3
College or High School Advisor or Teacher.....	2
My Own Decision	50
Other.....	3
Source: <u>Havighurst Report</u> , p.??	

The students were also asked what their actual goals and motivations were in choosing optometry. In responding students selected "a desire to work with or for people" most frequently (24%) and in descending order cited, "desire to be my own boss" (22%); "interest in the content of optometry" (16%); "monetary income" (11%), and "prestige" (8%). (10:77-8) (It is interesting to note that only 3% mentioned their own vision problems as being a factor.) Much of each student's interview in the current study was devoted to probing motivation and reasons why optometry was chosen. The following is representative:

It is a good career. It allows you to be independent. You're your own person. You can raise a family and have a career in optometry if you have a compatible husband. (Group interview, mixed years, female)

A number of women cited their prior work with optometrists as being instrumental in making up their career decisions. As one put it:

He really took an interest in me. He pushed, and at first I wasn't so happy, but now I love the work. (Second year student, female)

No woman revealed that she got any help from school counselors. In fact, by and large, they found that counselors were unaware of optometry as a career alternative. One woman was encouraged by a successful woman practitioner in her own town.

The men were not as varied in their reasons for selecting optometry. One man said:

Let's face it, a lot of us are here because we didn't get into medical school. I hear they are cracking down on that now so I don't know about you younger guys. I was unhappy in the beginning, but now I really enjoy the profession. (Third year student, male)

The Navighurst Report found that 29% of optometry students had applied to other health professional schools.

One man had to defer his decision to enter ten years before he came because of "circumstances". Another waited five, even though his father was an optometrist, because:

He is a very influential man in the field, and I didn't want to compete with his image. (Third year student, male)

Another male's motivation was quite interesting:

Our generation has seen what chasing the dollar does, and I think most of us are disappointed in what we have seen. There is a substantial minority [of optometry students] who came here concerned about getting rich--about 40%--they are not into things like research and public health, like the rest of us. Money is not where it is at. The name of the game is to keep a roof over your head and food in your mouth. Beyond that you look for things to increase the quality of your life, not the quantity. Optometry is a profession which can add to that quality. (First year student, male)

In the same vein, a few men and women cited the lack of pressure and stress, the good hours, and the independence of a career in optometry as reasons why they chose the field. As one man put it:

I'd been interested in it for a long time. I have seen what happens to the poor suckers that go into medicine. That phone is always ringing. I don't want to have to be put into situations at four in the morning to save someone's life. I don't think I could be competent at four in the morning. Optometry offers a chance to have free time. It influenced my decision but if I hadn't been interested in the eye before, I wouldn't have come. (Fourth year student, male)

His sentiments were echoed by another male student:

You really have to reject your personality if you want to be an MD at this time. Subvert it to such a point to get in, that you may not be able to change back once you get in. My friends in med school bit the bullet for so long, I just couldn't do that because I enjoy life and living too much. (Second year student, male)

Finally, the statements of four women with four different but, in a sense, related reasons for entering:

I was always interested in sciences. I worked as an EKG technician one summer after I had been accepted into nursing school, but working in a hospital I saw all of the static that nurses take from doctors, other nurses, and patients and I decided I wanted more independence. I rejected nursing school and went to the career center and looked at the books, and optometry seemed the best for solo practice. (Fourth year student, female)

I have been in a, quote, male profession before. I was a chemist in industry, and there were chemists and women chemists. I wasn't happy. I wanted to meet people. My husband thought of optometry, but I was leery of being in another male profession. But then, I thought that even if the profession was against me, I could still be my own boss and have my own practice. (Third year student, female)

I didn't want to go to med school, and optometry was the only one I thought of. I talked to some of the students and was encouraged strongly by my optometrist who really pushed me. At the time I started, I wasn't too sure that I liked it, but now I do. (First year student, female)

I had always been interested in health care and was interested in optics also. I thought of pharmacy and vet med, but by the time I was in college, I had decided on optometry. I was recruited directly by the school and chose to come here. The recruiter wrote me and set everything up. (Fourth year student, female)

In addition to these statements of students and how and why they came to the profession, the study inquired of the participating men and the women whether optometry was their first choice in a career. While the students we interviewed do not make up a representative sample and the data are thus inconclusive, the results suggest some interesting implications. Of the women who responded to the question, 15 out of 20 said that optometry was their first choice. Of the men, only 10 out of 16 chose optometry first.

As we have mentioned throughout the report, there appears to be some resistance on the part of practicing optometrists in some parts of the country to associate with women. As the following sections will demonstrate, there is also some resistance to women within the schools. However, it may be that women come to optometry with fewer reservations than men. If optometry is the first choice of women more than men, then those same women may be more inclined to promote the profession where possible. Again, the data from our study is inconclusive, but it suggests the need for study and the need to curb some of the practices that are directed against women in optometry school.

ASSESSMENT OF THE PROFESSION FROM THE INSIDE

By and large the students agreed on a number of things. First, they agreed that the profession is interesting and fulfilling without requiring a person to forsake home and family. Second, they agreed that some of the people in the profession are quite conservative and traditional and are often more like small businessmen than health professionals. Here are some of the comments students had on the profession outside:

As one third year student put it:

The traditional picture of an optometrist is the guy--a guy you go to when you need glasses. He examines your eyes, he decides whether or not you need some sort of lenses in front of your eyes, and if you do he prescribes them. That's sort of a traditional picture and, you know, for a good number of years, men out in the field have known about pathology and originally, historically, have--in the very early stages of optometry--all they were concerned about was refractive errors, but more than in the last ten or fifteen years, there have been people in the field who have been knowledgeable about pathology. Here the first two years are very comparable with the other health professions schools in the city, and we get a lot of pathology, especially third year--second and third year--they start hitting us with path courses and the intent is that you're going to be able to recognize pathologies--ocular pathologies--when you see them, and it's moving toward a time when there's going to be not just diagnosis but actually some treatment. That part is a little bit indeterminate now because that part is regulated by the state laws, but there are at least a dozen states now where optometrists legally use drugs for diagnostic purposes and it's leading toward a time when we're going to be possibly doing some kinds of other treatment of pathology. (Third year student, male)

One woman replied:

The thing is not as an individual, but as an organized group you can do things to change laws in the state and you can't push to change a law if you don't have the educational background--if you're trying to change a law about something like using drugs--using diagnostic drugs, for instance, like the one that was just passed--the law that was just passed. If you don't have some kind of training already in progress in the established schools in the use of drugs and you try and get a law on the books, you have a lot more trouble doing it than if you can say you already have this educational program in existence. (Third year student, female)

The growth and dynamism of the profession was brought into perspective by this student:

There is a continuing thing, though, this profession like any dynamic profession that rests on technology is in a constant state of change. There's nothing they can teach me now that is not going to need modification 15 years from now. So really my education is a lifelong responsibility. It's got to be my responsibility because the school can't assume it once I've graduated. And so I would think that somewhere along the line we need to recognize that as the way to operate here. What happens to me here should be a model for how I'm going to operate when I leave, I would think. (First year student, female)

The growth of the profession was contrasted with the conservatism of some of its members by this fourth year students:

The image of an optometrist varies with which state you're in and it varies with what school you go to, but does the profession itself have this view of this forward movement?

It would be inaccurate to say that the profession as a whole does. The leaders in the profession do, the younger men in the profession do. The rank and file who are 58 years old and do only refractions see no need for this kind of legislation. They've got a good thing and they don't see any reason to rock the boat. That's not entirely true, but it is a prevalent feeling. (Fourth year student, male)

These sentiments were echoed by this student:

Historically, one of the problems is that we have a past history that's holding us in. And we've got a lot of practitioners who in the next ten years will be retiring, that do grind lenses and things like that. We're sort of stuck with that until we can change the profession. When we talk about our education, we talk with somebody who is out in the field already 25 years, they don't know what you're talking about. (Second year student, male)

FEELINGS ABOUT PEERS

Optometry school is a difficult and trying experience for a student. It involves four years of intensive training requiring memorization, analytical thought, and intuitive judgment. Through it all the students must act and

interact with and among each other. Friendships and relationships as well as enmities are formed that presumably last lifetimes. The difficulty of the training creates a closeness, a common bond, a foxhole effect if you will--where, traditionally, boys became men under the stern tutelage of aggressive faculty. The introduction of increasing numbers of women into the schools tends to change this situation. The quotes below are illustrations of the feelings and opinions of the men and the women who participated in the study about each other. Comments are grouped around these issues:

- Competence
- Social Relationships
- Discrimination

Competence and Professionalism

The competence of almost all women to perform the work expected of them was recognized and attested to by the faculty and administrators of optometric education. Some male students did question the competence of women in interesting ways.

Aside from the competence issue, men often questioned the dedication and professionalism of women--whether they will practice, for how long, and in what manner. They often tended to hold stereotyped opinions about women and often based their statements on undocumented myths and beliefs about women. It should be understood that the majority of the men appeared to accept the women. However, often times the minority was more vocal. The following are a few of the comments of the male optometry students about their female peers:

As far as the profession goes, I can see that the women are just as competent and have good grades and experience. It would be a waste of talent and a waste of effort if these competent people marry, raise a family, and don't practice. I am not sure if this is the trend or not, but, if it is, the issue is key. (Third year student, male)

A second year student disagreed:

*Face it, women are here to get married, and I can't blame them. Sure they work hard, and some get good grades, but it doesn't matter. They are going to marry and quit anyway. That is just what I have heard, that women drop out when they finish. I don't remember where I heard it.
(Second year student, male)*

One first year male felt that the following said it all:

Women participate less in professions. Our times suggest that women are to do women's work rather than men's work. You have to continually educate women and put them in situations where they are technically secure. Women from birth are taught to be incompetent, and the only way you change that is to put them in situations and positions where they have to be competent and take the failure rate. After a certain number of women have gotten through the trauma of being forced to be competent, failing to be competent because they have been taught not to be, and other women begin to see that, then you are finally going to get to the point where women detrain themselves and parents will no longer train them that technical competence is not quote feminine. (First year student, male)

Another first year male was more pragmatic:

Most of the guys sit around and talk and bull about practice and how we are going to do it, but I have never heard the women talk about it. One girl said something but it always comes up. At the risk of being called a chauvinist, I wonder how many of them will go into practice, because I think a lot of them will get out, get married, and work part time. I envision very few of them being real true 'dyed in the wool' professionals. (First year student, male)

A third first year male responded to this opinion in a more positive vein:

My philosophy is different. The reason we don't hear a lot of them talking about 'when I get out and practice this and that' is that sociologically they haven't been subjected to the same pressures to have a plan to know exactly what they are going to be and what they are going to do, and where they are going to buy their house, and where they are going to practice that we are concerned with. They know that they are going to have this degree and that they

can use it, and a profession that they can use, and they can go anywhere, so there really is not that much concern. Where they live is determined on where they go. (First year student, male)

He later went on:

Advanced plans are not that critical. The short supply and great demand for optometrists is such that, except for isolated glutted areas, you can go somewhere and set up a practice. Some men are socialized to make plans, and they can't understand it when a woman or another man, for that matter, is not so tied to career and life planning at 25. Women just aren't as concerned. It has been my experience that the majority of women in my life have worked. If you are going to be a working woman, it is nice to have something to do beyond being a secretary. If they are gifted enough to go through this program, they will work at it. (First year student, male)

Another student thought that the women in optometry represented a sign of the times:

But there is a shift in values. The Women's Movement has made a difference. I think that is why more women are applying, and I think these women are going to make a great contribution, if not in length of years, at least in terms of new blood, new ideas. It won't be an old men's club anymore. (Group interview, male)

His point was challenged by this statement:

The trend is not changing. All things being equal, women have a different set of hormones. Chances of a man practicing for a reasonable set of time over his life is probably twice that of a woman. There is, I believe, a maternal instinct. Women want to be mothers. When a woman becomes a mother, priorities shift to familial obligations. (Group interview, male)

The discussion should perhaps end with this small interchange from one of the group interviews.

R¹ *But in the delivery of health care services--in terms of man hours put into optometric care, given even numbers of men and women--men would put in more person hours.*

R² *You're holding it against the women, and you don't know the facts.*

I *You don't think that is true?*

R² *No, I don't think so. With one or two exceptions the women work as hard as the men, and there is one outstanding woman student who works twice as hard as anyone, and does twice as well. I might add that I believe they are going to work as hard in the future. (Group interview, male)*

The women optometry students who participated in the study acknowledged the feelings of their male peers. In a sense they were defensive and at the same time some were a little embittered because of all the assumptions made about them. Here are some comments from the women.

As one woman put it:

The problem is, of course, that being a woman means having to prove yourself every day. It just gets frustrating because they seem to love it so when you mess up. They wait for you. (Fourth year student, female)

One woman saw it as a kind of invisibility:

If you're in like a small discussion or a problem comes up and you're discussing it with say three or four other students and somebody doesn't understand something and you will go around, you know, trying to explain it. You can be right but they won't pay attention to you and five minutes later they'll come up and say the exact same thing and you know they'll take credit for finding a solution for something that you had said before. (Third year student, female)

To other women the issue was broader:

It's the fact that women are lumped together and their behavior is generalized upon and that doesn't happen to men and so again women who come into fields where there have been few before them, their behavior is much more visible. People look at them as women optometrists and that's a whole new breed of people. (Third year student, female)

There's also that part that a few women are going to be taken in as a novelty--you know you're something different, you know, they don't see it as a threat. But I think as more women are entering the schools the men are thinking, 'Oh, here they come.' (Second year student, female)

One woman saw it as a problem in the beginning:

I've gotten a few comments like 'You wouldn't be here if you weren't a girl,' but if you can prove yourself and when they realize that you're working just as hard or harder, it's okay. (Third year student, female)

But another woman saw the problem as a cumulative one:

As the years go by, the issues become more critical. The guys become more impersonal. It is sort of frightening but the guys won't say straight that women don't belong. But you hear it all the time. In the clinic and sitting and talking, things clearly sexist and discriminatory come out of the mouths of students we've been in class with for two years. 'That is good for a woman', 'That salary is great for a woman', etc., etc., are the things that you hear all the time. It's spooky. (Third year student, female)

Women responded in different ways to these feelings. Here is what some students felt they must do:

You have to continually prove yourself as a woman. You know, just go overboard--and not be emotional. (Second year student, female)

Every now and then you have to prove to people that you're not just here as a hobby, because that's what they assume. (Third year student, female)

And lastly:

You just have to project confidence like they do. You don't have to know what you are doing, you just have to make on like you do. (First year student, female)

Social Relationships

Social relationships among students are sensitive issues for both male and female optometry students. Unfortunately, they also create problems and animosities. The following are comments about the problems students have with each other.

First, because the schools are small--and those in large universities isolated from the rest of the university--there is the problem of being in what amounts to a small town atmosphere. As one woman put it:

You have to watch it the first year because first impressions are important. Like some girls really had it bad in this school. There was one girl in our class and a girl in the next class, who the guys just happened to get either a wrong impression of, rightly or wrongly, and ...like it was really hard to overcome... slander, or something's said, or you know. They become the talk of the town, and I don't believe a word of it yet. (Second year student, female)

Or, as another woman commented:

A student said to me--I like to wear short skirts--he said 'I found the way you dress for _____ clinic very unprofessional and degrading. Your skirt was so short you either were stupid or on the make.' It was a proper skirt, I mean half the university dresses ten times as suggestive. Some of these guys are just pretty weird, poorly integrated, you know? (Fourth year student, female)

Some of the single women expressed the concern that they not be too outgoing. As one woman said:

I don't know, it seems that they all know what is happening. If you date one guy, everyone has you engaged. You have to be careful not to give people the wrong idea. One false move, and they assume anything. (Second year student, female)

Among the discussions on the subject was the following interchange:

- R1 *If you're single, you have to watch yourself, I think, a lot more so that the guys don't get the wrong impression that you're playing around.*
- R2 *If a girl is married, she can be more outgoing and go up to somebody she really doesn't know and say, 'Hey, I really don't understand this!'*
- R3 *Yeah, we [married women] are safe. (Group interview, female)*

It is interesting to note that much of the problem may be related to the relative proportion of women in the class. If a significant proportion of the class is women, the problem is not as acute, as the following comments suggest:

- R1 *All I have to say is being a woman in our class is tough.*
- R2 *That's strange. I don't even get the feeling that guys look at me and say, 'She's a girl.' Like, I'm just another person in the class.*
- R1 *Maybe because there are so many more women in the class. Yeah.*
- R3 *And with 20 girls it makes it a lot different than when there's only two or three.*
- R1 *Yeah, when everybody knows your name because they've checked it up on the roster.*
- (Laughter) (Group interview, female)*

The men, in turn, expressed concerns about the women in their classes, but our study did not find any men with painful personal experiences. The following represent the general sentiments of the men about the sexuality of their female fellow students:

*I resent it when a woman uses her feminine wiles to get good grades. You see it happen all the time. I don't know, you would think they would get by without that stuff.
(Second year student, male)*

A second frame of reference was:

There are so few women in my class there is not that much of an interaction. One woman in our class married a man from the class above. But it is a funny situation, the guys in my class just treated them [the women] as members of the class. Socially, people just don't want to 'eat and s_____ in the same house. The guys that did date the girls, it was tough. We're in such close quarters here, everybody knows your business. The majority of students [male] try to stay away from relationships like that. To some degree, you don't want to have my wife smarter than you are, you know. I don't see how you could handle your life having your wife as an OD if you were an OD. (Second year student, male)

A different perspective on the same point of view:

I do think a lot of guys resent women knowing something. I'm not, I'm more amazed at the quality of the women here. I've found that they are doing as well, if not better than, the guys, and I think a lot of the guys are not able to cope with that fact. (Third year student, male)

The third was:

I realize that it must be impossible being a girl here. The guys act pretty immature at times, and you can't blame them really. But no one should be treated like some of these women are. The jokes are cruel, but they are funny. I don't know. I'm just glad I'm not a woman here. (Third year student, male)

Each of the above views was held in varying degrees by most of the male optometry students we interviewed in our study. What is unfortunate is that few of them understood how painful the issue is for some women.

Discrimination

When speaking of discrimination, women often tended to lump the men--students, faculty, administrators--together into a "they" category. However, the following are examples of where the incidents clearly involved fellow students.

Sometimes the discrimination takes the form of accusatory comments:

I think that just about any amount of aggressiveness in a woman when it's a colleague is blown all out of proportion. I know that there are women in our class who if they just say one thing the back row goes bananas. It's blown out of proportion. 'She's an aggressive bitch. She's this and that.' (Third year student, female)

Or, along the same vein, women often face a double bind between being either aggressive or "feminine", or more often in between:

It's like what you said before about not being able to be yourself. You know, if you want to take on a more feminine role you get ostracized on one side and if you take on a more masculine role you get it from the other side. You can't just be what you are. They don't know how to handle it. (Second year student, female)

I've found that around here some of the fourth year students delight in saying: 'Get off your liberated woman kick. Quit doing that, you just can't go that route.' (Third year student, female)

Since much of what happens occurs on an individual basis, some women honestly reported that there are no problems:

Discriminated by other students? Not in our class. If it's there, I haven't noticed it. In general the women are doing better and appear to be quicker. The average woman does better than the average man, and they know it. (Second year student, female)

And then there is the very personal problem:

I had a very close friend, a man. He was the first man I had been friends with. We are both happily married, so there was nothing involved. Well, we used to talk, have lunch together, you know. We were lab partners. It was nice to have him for a friend.

Well, we have this group we call the 'jocks'. They are all 'jock types', you know, 'frat rats'. Well, he was one of them, and they didn't like him spending so much time with me, and well they forced him to stop, literally.

At first I was quite sad, because, like I said, he was my first real male friend. But then what can you do. My husband said you have to expect that. I guess so, but I still felt bad. (Fourth year student, female)

In general the optometry students we interviewed held opinions similar to the other MODVOPPP students. The issues raised by the students concerning their

classmates echoed the sentiments felt by students in all of the professions. To a certain extent it is our impression that the men with whom we spoke appeared to be somewhat more critical of women and their purpose in optometry school than the men in some of the other MODVOPPP schools. Much of that may reflect what appears to be a less receptive attitude toward the women by the profession as a whole.

FEELINGS ABOUT PROFESSIONAL EXPERIENCE

As mentioned earlier, the actual training experience does not appear to present the greatest hardships to women. The women identified various issues such as going to school and raising a family, or putting up with snide comments. Rarely did women resent the work. Women did discuss their fears, and some felt they were not doing well, but the women we talked to appeared anxious and excited to become active practitioners.

The men were almost all quite concerned about practice. They spoke of the future and the ways of practicing and the alternatives available. There was some concern that jobs would not be available. In terms of the training experience, the men appeared to be more concerned about the rigors they faced. In addition, they appeared to generalize rather than personalize their experiences.

It is interesting to note that women more than men identified problems with faculty. At the same time, women revealed that faculty were at their most critical and brutal with men.

In discussing the issues of the training experience the following categories have been selected:

- Admissions
- Classroom Experiences
- Clinical Experience
- General Experiences
- Family Concerns

Admissions

While most respondents suggested that the women were generally better qualified than the men, both the men and the women generally felt that it was easier for

women to get admitted to optometry school. Apparently, the schools did not work hard to dispel the rumors, because repercussions were felt and opinions expressed on both sides of the issue. Here is some of what the women said about admissions:

- R1 *I had so much confidence, I just applied to this school, I didn't apply any place else.*
- R2 *I got accepted before I finished my physics course. I had no biology.*
- R3 *Yeah, go ahead, just apply, you're in.*
- R1 *I think they're just trying to bolster, like someone said, if your grade point is the same as a guy's grade point, I think they would much rather have the girl just because I think they're, at least this school, striving to equal out the ratio. (Group interview, female)*

A number of women were quite upset about this type of argument, because, as one woman put it:

I've had feedback where people have said that I guess they are making it a lot easier for women to get in the professions now and that's why they're in and I sit there and I feel like kicking them and saying every dirty word I know because I know...I've worked hard for it and it's not because I'm a woman that I'm in. If things are like reversed and you're going back...if people keep getting that attitude, they're going to ... it's just going to worsen the attitude that the women professionals are not as competent. They got into school because they were women and now they're out and they're no good. (Fourth year student, female)

The women believed the admission experiences for women in optometry were not as unfair as in medicine. The following statement bears this point out:

My big interviews, I had three interviews at medical schools, I was just completely shocked because all they kept on harping was, 'How are you going to handle the family? Are you going to have children? Are you going to take off on your job? Blah, blah, blah.' And I felt like saying, 'What, you know, already?' (Laughter) It was just like that, you know, just because you are a woman you are not supposed to go and, that's what it was like. Well, because you are a woman, you're not supposed to be a medical doctor because you can't handle it, you know, you can't handle two things at once or anything like that. (Second year student, female)

Another woman felt that optometry was better because of timing:

I think we came in at the peak, prime time, especially my year when they talked about getting more women in professional

schools. You can see that there's ten in my class, there's like ten in mine. When I came down for my interview, they said, 'We're looking for more women.' Next year or the one after, they are probably going to say, 'Sorry, too many women', (Second year student, female)

The men interviewed did not discuss the admissions process beyond their decision to apply. This is not to say that they did not have opinions on women's admissions. Statements such as "Being white male makes it very difficult to get in" were common.

Classroom Experiences

The students interviewed did not identify any particularly unpleasant situations in the classrooms. Most agreed that the pre-clinical years were quite arduous, but students did not express the complaints of many medical students that the courses were irrelevant. Complaints about the failure to tie the didactic courses into the clinical experience were made, and there was some criticism of the quality of instruction. All in all, however, students appeared to accept their pre-clinical experiences.

It is interesting to note that the pre-clinical years present a special type of problem for the women. The statements below give a sense of the range, but by no means the breadth, of the problems women face in their pre-clinical years as expressed by men as well as women.

At first glance, some of the issues appear petty--for example, referring to doctors as "he" or always referring to the men as "Dr. X" and the women as "Miss Y" or just "girlie". But, as the following statement puts it, after a while...

It's gotten to me. People always say 'he' when they're referring to doctors. You've gotta use a pronoun. You've gotta use something, right? But everybody who is an assistant is 'she'. 'She answered your phone, or the "Girl".' And it's very subtle and you feel ridiculous complaining about it. It sounds really petty but every day it just pervades everything. After a while if the clinicians mention it, even patients pick it up, kids pick it up, and well, somehow it stops being a trivial issue. (Second year student, female)

A common complaint of women was that people expect them to drop out, as this woman noted:

A faculty member did come up to me in my sophomore year, at the beginning of my sophomore year, when he saw me for the first time during the second year and he said, 'Are you still here? Haven't you found a husband yet?' They've got some weird hang-ups around here. (Third year student, female)

Other faculty present worse problems:

Everyone has some prejudice. One instructor calls the men 'doctor' and women by their first name. One young doctor is a go-getter, Mr. Sharp Guy, well, there is no doubt in his mind that women are never going to be anything more than employees for ophthalmologists because 'That is what they are here for'. The way he puts it, nothing makes a difference. Women just don't have the time or interest to get involved with practice. Married or single, family or no, rich or poor makes no difference. I had him for one of the professional courses, can you imagine what he is like in clinic? (Second year student, female)

Sometimes professors really display outright prejudice against women. This third year man identified another example of this type of faculty male:

There is one instructor here who has adamant views that women have no place in life except in bed and in the kitchen. He is about 40, not an old fogey. He comes right out in class and tells the women they don't belong here. (Third year student, male)

Clinical Experiences

It is probably true that clinical experiences can be both the most and least rewarding experiences for an optometry student--rewarding because they are doing what they have been waiting to do for years, and unrewarding because they often have to deal with difficult clinicians.

The clinical experience is evidently marked by the clinician who berates his students when they make mistakes. According to students we interviewed, the experiences are often humiliating dressing downs given in front of the whole clinic. It appears that such scenes are usually saved for the men, and women are rarely included.

The following are comments about the experiences of women with clinicians, their peers, and their patients. Sometimes the problem with clinicians is that they are older, and have different reputations for women:

I have had some experience with clinicians. The old group treat us as daughters. One time a clinician interpreted a poor job I did on a patient as being emotional. He also said I had to work three times as hard because I am a female. Another asked 'You're doing okay, but when you get out do you think you are going to practice?' I told him yes, and he looked surprised and asked 'Do you think the other married women in your class are?' and I told him yes and he looked astonished. I asked him, 'What do you think we are here for?' (Fourth year student, female)

Other clinicians make other assumptions as this woman pointed out:

One clinician seemed to have it in for women in general. Once he talked about your basic neurotic female complainer, but another instructor challenged him on it. I glared at him. The only way I could relate to him was to be sarcastic and to glare at him. I don't know if he likes me, but I think he respects me more than if I had crumbled under his antagonism.

Once, I had a good time with a woman patient in his clinic and the patient said to him, 'I really enjoyed the exam, she did a really good job,' and he said, 'I guess it wasn't bad for a woman.' I don't think he wasn't serious about it. It was an uncalled for remark. It did appear he was evaluating me on a different scale that he would evaluate a man. However, I got an A from him. I didn't feel I could confront him directly with it as a student. He did similar things to me. The worst thing he did was to a male student. The most shattering to a person's feelings. He really criticized the student in front of his patient, but what he did to me was almost impersonal just because I was a woman. (Fourth year student, female)

The women had some interesting observations in one case about the activities of their male peers in clinic:

R¹ On the one hand, they say you are dressing too free. It makes you wonder whether you should go around with a thing wrapped around you...Really weird.

But on the other hand, when [women] patients come into the clinic dressed sharp like that you get this big lineup, you know, all these heads sticking out the window. And that's professional?

R² Waiting to pick up cute looking girls. They have a system.

I *What do you mean?*

R¹ *Oh patients. When nice-looking girl patients come in some-times there have been a couple of instructors that know particular guys want to meet girls and they'll give'em their envelopes so they can examine the cute girls.*

R³ *One time my husband was sitting waiting and he saw two who shall remain nameless talking like that right in front of another woman who was about 45 and they were saying I'll take this one over here, she's cute and this woman is just sittin' there. He couldn't believe this was really happening. (Group Interview, female)*

Patients present some interesting problems for women in the clinic. Perhaps the most important is accepting a woman as the doctor. The following comments touch on this point.

One woman had an amusing anecdote on this point:

I can tell you an interesting story. I was at the clinic a couple weeks ago. One of these sophomores was observing you know, in my room, and the patient came in and I introduced myself as Dr. and that Dr. So-and-so would be observing. I'm taking the patient's history and I am asking this person the questions. I'm sitting in front of the patient, the patient is in the chair, and she says 'Oh, my eye hurts...' and she's talking to the guy here.' And I was just about ready to say to the sophomore 'Hey, buddy, get your butt out of here; this is my patient.' But the guy, you know, I'm sure he felt as uncomfortable about it as I did, and I figured, come on this kid's got it together! Talk to this one. But she really did direct her attention to him, 'my pain here, my back doctor-- and can you give me something for my knee.' And she's telling this guy. (Fourth year student, female)

Another woman had an interesting encounter:

I had a patient who didn't realize she was going to be a regular clinic patient. She thought she'd have some special treatment, and when she found out she wouldn't she was upset. I said: Well I'll begin this exam until we get this problem straightened out. She said, 'well we're gonna have problems anyhow.' I said, 'what do you mean?' She said, 'I just don't believe in women being doctors'. And it really shook me up-- I got upset and could hardly go on. And I realized that you have to be able to cope with that because it's gonna happen again. You know people will show up in your office and not realize you're a woman until they get there and I can see that happening. You have to figure out a way to deal with it. (Fourth year student, female)

The majority of women had positive experiences with patients, as this woman relates:

*Actually I've found that people are by and large more friendly--I've had a lot of women say, oh, it's really nice to have a woman doctor. Yeah, I've had a lot of women say that, especially older people. I've been most impressed by that especially when they're excited to have a woman doctor. And I've found the most resistance from middle-aged successful professional men. Lawyers who say, 'Wouldn't you really rather be a waitress?'
(Fourth year student, female)*

General Experiences

Women and men both express and identify general problems and concerns. By far the most significant involve financing while in school and financing when in practice. By and large women express more concern about school finances, and men more about practice finances. The following are comments addressing both issues:

- R¹ *I had savings since I was born, you know, the \$25 savings bond that your grandparents give your parents, that kind of thing and I just assumed that after I graduated from college, which my parents took care of, I was on my own after June 5th of last year and I just knew I would have to go into debt completely for my education here, it didn't stop me though. Eventually I'll pay it back. But it was a big thing, you know, sort of like a deep breath, okay, sign that loan. When I get out of here, I'll be paying back for ten years. One of the little sacrifices you make.
(Third year student, female)*
- R² *It's frightening. The state only allows you so much. I have borrowed my limit. I figure that the school can't kick me out, but I don't know. It is just so sad. (Second year student, female)*

Some women identify problems associated with summer employment:

I feel it is harder for women to get summer jobs and part time jobs. The things that are open to you are really bad, and even over here at the Student Employment Service, they'll say, 'We don't discriminate but this is heavy work, heavy labor and only open to men'...those jobs pay so much more than the jobs that are open to either, and the jobs that are open to either always turn out to be, the women always get those jobs. So even though, I guess the school is attempting to do something but it just doesn't work. And last year when I did get a part-time job, weeding and gardening, and when I showed up

at this place, the woman was really shocked to see me, 'cause they expected some six foot guy to show up. And they were very pleased with my work, and it led to better things later, but it's just initially when you apply for a job, comparable to what a guy would go for, everybody is always shocked. (Second year student, female)

Financing a solo practice is a major financial undertaking. Yet some men, and at least one woman, we talked to were pointing towards it. Here are some of the issues:

If you want to set up two complete offices, or even an office and a half as an optometrist, it's going to cost you a good deal of money. You're talking about, you know, with rent and everything, about two grand a month overhead. And like, MDs just don't spend that kind of money to start. You know, most people don't. Even, I don't even think dental people do. (Second year student, male)

Another man was not as pessimistic, but...

As far as financial obligations, I think that most of us would want to start out, either in a solo or an associate-ship practice. As far as beginning with a solo, you know, I always thought, for sure you can get a bank loan, you know, if you have a 'Dr.' in front of your name, you know, if you have any kind of credit reference, you know, if your parents have any money, or something, you can usually float a loan for a sizeable amount to start a practice. The problem is that if you already owe \$15-20,000, which is what it costs to go here, in bank loans, you know, you just get so far into the red that you'll never write with black ink again. (Third year student, male)

A third man had an alternative:

Of course, not everybody that comes out of here goes into independent practice on his own...When they come out, they feel like they could really use some kind of an association with an established practitioner...at least until they really feel fully out of the woods. You know, optometry unlike medicine does not have a tremendous amount of residencies around to help people to get their act together. Now the idea is that you're supposed to know what you're doing by the time you come out of the clinic. Everybody really likes to think it does. But a lot of people feel like it would really be good to practice with somebody that's been out and established, and do that for at least a while. (Third year student, male)

This latter point opens up another general concern of women, and that is whether someone will associate with them. The women expressed a considerable amount of concern and anxiety about whether they will get adequate work. Here are a few of those comments:

I expect it will be hard to find a job with another optometrist and most of them are in their middle ages. It will be easier to get something from like with an ophthalmologist--just an employment type job. Nothing that will go as permanent. (Third year student, female)

Women also worry about pay differential:

One of our class professors told us that male optometrists are the 7th highest paid profession and females are 79th or 76th...and that the men were averaging \$28,000 and the women were averaging \$7,000 to \$9,000. (Third year student, female)

And job limitations:

Yeah, I think it's also an accepted thing that if a woman graduates she's gonna be working for an ophthalmologist--the kind of things that are kind of looked down on in the profession and maybe--well they say all the women do that, or all the women do that and they would not mention it if it was a man who did that. One of our instructors works for an ophthalmologist, and nothing is said about it, but if they speak about a woman working for an ophthalmologist because that's all she can do--they figure she can't get anything better and a man is just feeling out what he wants to do later, a specialty like thing. But I feel oftentimes women may be forced into those jobs that are kind of looked down on because there is no other place for them and they do want to use their skill. (Third year student, female)

And then there are other issues as this group interview interchange suggests:

R¹ I was told by one doctor that I oughta get off my back and start finding a job now, because it's gonna be harder for me to find a job and he gave me the impression that he wouldn't hire a woman either. Optometrists probably will just hire 'em as an employee but not with the mind of making her an associateship or partnership of any sort. Also, I think they have confidence problems themselves that--they have a wife of their own and some of them probably want their wife to stay at home and that's all they want her to do so they chuck that onto us and expect--they think that that's where our place should be, at home and not out here. Not you know, like there must be something wrong in my marriage or something, because I work.

- R² *I get the feeling it must be worse for unmarried women to get a job. For those of us who are married, we have the relative stability we can show them but if you're not married...*
- R³ *I think that can create problems with the wives of the optometrists. Men would hire women but doctors' wives won't let 'em, will get upset and say they'll have to check it out first.*
- R² *That can also work against us being married in the sense that they're willing to hire us part-time because we have someone to support us--and we would get a lower salary for that reason because we're not the primary breadwinner in the family. (Group interview, female)*

Family Concerns

Like all MODVOPPP students, married optometry students face considerable hardships. Their expenses are higher and they must maintain their relationship while devoting a great deal of time to school. However, it appears quite evident that married women face even graver hardships than married men. They face the general problems of household maintenance and spousal expectations, while men, if they do face chores, face the problem to a lesser degree. Also, women often face the problem of spousal anxiety over their elevated status, often the opposite situation that accrues to the men. Lastly, upon graduation, women face the problem of whose career is superior, while the men rarely do. The following comments highlight these problems.

First, a perspective from the male point of view:

A lot of the men that do get married, their wives are holding down jobs and that's a plus maybe. If you really want to get married, that's a plus. She can support herself and perhaps even help you and that's good. If you want to get married, that's a good motivation to get married and be in school. If you're on the other end though, where a lot of the guys who go to optometry school (by the way, you have to preface this with the average age, like my class is 24, freshman year). So these guys, maybe by junior year or this year are getting married, are like 26 or 27 years old. And they may, you know, you really want to start settling down and everything and your girlfriend is probably out of school, she's probably teaching or working or something for a year or so. And also, just besides the financial reasons, your first couple years of marriage are always a personal strain. You want to put the time in with the relationship and if you're here, and you're studying hard, you don't have the time. And you put a lot of strain on the emotional relationship which will also affect your academic. It's a vicious circle. (Second year student, male)

Housework:

I think we all kind of have the problem. Every step I've made, I just had to go against my husband. He starts pushing me and says, 'No, go ahead and do it, but do it because it looks good as my wife.' And then on the other hand he thinks the wash hasn't been done since last week (laughter)... and it's just assumed that I'll cook the dinner, I mean, of course, who else will do it? It's taken eight years to get him to do the grocery shopping and he's always, 'Oh yeah, well, I'll do it, sure, fine,' or 'Look, why should it be this way?' it's like 'Why're you saying that?' I mean, it's expected that you'll do that stuff. Why do you make such a big deal out of nothing? What's the big deal about throwing soap in the thing and throwing soap suds in. (Third year student, female)

Husband's Anxiety:

That's true, I think being a woman, you have an awful lot more problems. I know, the emotional sacrifices, when the peer pressure for me not to go here was very significant. My husband's friends, you know, 'Why is your wife going there?' That kind of thing. It's a very strong influence and you know, you always have to fight twice as hard to get here because it's not something that just comes, 'Oh yeah, she's going to go on and do this.' Everyone is kind of saying, 'Well, why? Why bother? Why are you doing this?' (Group interview, female)

Practice Hassles:

It's much more acceptable for a woman who is working somewhere to say look I have to move with my husband. It's very hard for a man to walk into his job and say, 'look, I have to relocate because of my wife.' He's looked at, like, what's wrong with him. No woman is looked at--what's wrong with her even though she's abandoning her practice and whatever else. (Third year student, female)

Salvation:

I think that a lot of men now are becoming more liberal and if you marry a fellow as a wife, he expects it. If you marry him and you are a professional woman and he is in love with you, then he is going to pull his load too, I mean, it's just a difference and if you marry him and you have no career or anything it is expected, you really don't have that much to do so why not do all those, but if you do marry a man and you do have a profession, I do think a lot of them now are becoming more liberal. (Third year student, female)

Attitudes About Male/Female Students

By and large faculty and administrators in optometry schools see no difference between men and women students. Or rather they see differences between individuals but not as groups. Some did feel that women were either superior or inferior because of certain qualities which either complemented or detracted from optometric practice. In general, the complementary traits women have are that they are, as a rule, bright, they are good with children, they are empathetic and supportive. The uncomplementary traits are that women are too emotional, too small (physically), too shy (not aggressive), too aggressive (not feminine).

Apart from characteristics of women, there are generally held assumptions about women that tend to affect the feelings of faculty and administrators about them. The most widely held of these stereotypes are those which have been mentioned throughout this report. They include:

- women will not practice;
- if they practice they will practice part-time;
- if they practice part-time, they will be employed, rather than have their own practice; or
- if they are employed it will not be professional but for an ophthalmologist or commercially, not for an optometrist.

Again it should be recognized that these opinions, which run counter to the data available, are held by a minority (although seemingly a significant minority) of the faculty and administrators of optometry schools. It can be assumed that on a general basis men are expected to practice professionally. Those who do not are regretted, but every man is given the benefit of the doubt until he fails.

The following are quotes from faculty or administration which suggest positive or negative characteristics of the women students that are otherwise irrelevant for the men students:

The General Issue:

In the past, female graduates have entered the lower niches of the profession, often working for an ophthalmologist or a commercial company. It has always been the case that private practice is the highest calling. I feel discomfort over women not aspiring to this. (Clinician, male)

A Positive View:

I have had a woman optometrist in my office for a year and a half. She sees patients from children to elderly people. Occasionally, people are upset because they see her rather than me, but that is always the case with a junior associate and it has more to do with age and apparent 'doctorness' than sex.

Optometry is a profession that allows for a home and family if a woman so desires. If she does not, her career is no different from a man's. I guess the problem arises if she wants a full dose of both. (Clinician, male)

A Negative View or Two:

Women are fine as long as they can instill confidence in the patients. Male patients are reserved and uncomfortable with a female....I couldn't have a woman come into my practice. It is suburban. Could you just see a 5'2" woman doing a refraction for a 6'2" man. It would be silly...Proportionately women are much less assertive than men, and it is a problem. Also they are young; assertiveness comes with age. (Clinical, male)

A Sometimes Problem Damning with Faint Praise:

From their perspective, personal perspective, it's an ideal occupation for a woman. Combining that with family responsibilities or whatever, she has flexibility, she's not, in a sense, the same as a physician. It's good work, it's clean, it's interesting and she's dealing with people. It's better than dentistry. You don't have to put your fingers in a wet mouth all day type of thing. She can deal with problems of people and although we tend to categorize women, unfortunately, in the area of pediatrics, which is illogical many times, they do have maybe sensitivity and abilities with children, that the average male student doesn't have. The whole gamut, yeah, there's no reason to me why women aren't attracted to optometry any more than men. I think it's part of the practical, pre-professional school education that happens in America that very few women seem to think a health professional career is for them, if it's other than medicine. I really don't know, you're asking me a question that I have no answer to, because I don't see that there's any difference. Men and women are men and women. (Administrator, male)

VI. SUMMARY AND CONCLUSIONS: IMPLICATIONS FOR WOMEN IN OPTOMETRY

The proportionate representation of women in optometry is the lowest of any MODVOPPP profession. However the early history of the profession in the United States suggests that women once played a much more significant role in the profession at the local, state, and national levels. Current opinions on women's past and present role in the profession are not well-supported by good data.

Partly because of their historically few numbers and perhaps partly because of the competition they present to their male counterparts, women in optometry are often stereotyped. Among the most widely held beliefs about women are:

- that they belong or do best in pediatric optometry, (in fact few women in practice have a pediatric emphasis);
- that they leave the profession because of home and family, (in fact it is not known why there are proportionately more inactive women optometrists than men);
- that they work for ophthalmologists or accept other "non-professional" positions (in fact as of 1970 the number of women employed in potentially "unprofessional" positions was not nearly enough to justify any statements regarding those women);
- that women are in some ways unqualified for optometry because they are too small, too emotional, or too shy.

The American Optometric Association has expressed some concern about the lack of women in the profession. Numerous recruitment brochures have been printed which, while not solely focussed on women, do mention the desire and need for female optometrists. In addition a special admissions counseling service was set up in 1974 by the AOA which enlists the services of practicing women OD's in counseling women in choosing a career in optometry. Over 100 women OD's participate in this program.

This study found little evidence of women in optometry school who had heard of the counseling program or had even seen the women-oriented recruitment brochure. This is perhaps because the AOA controls the services and responds to direct inquiries for services. A prospective student is more likely to contact the school or schools of her choice than the professional association.

Hence, the excellent services that the AOA has set up may suffer from their lack of coordination with the individual optometry schools.

Optometry students, because of the costs of setting up a solo practice and the rapidly expanding nature of optometric practice, appear to favor associateship or partnership arrangements from among the available career alternatives. This study revealed that women feel that they may not be able to secure associateships because of the resistance of practicing optometrists to women optometrists. Women OD's proportionately tend to be involved in associate or partnership practices more often than men ODs. If this trend continues, and if the female students are correct in their assumptions about the resistance they are going to face, women ODs are going to face significant practice problems as their numbers increase.

The Schools of Optometry apparently provide some assistance to students in securing work upon graduation. Because of the nature of the work and of private practice in general, this assistance commonly takes the form of matching students with practicing optometrists who have asked for such referrals. The study revealed that certain students were of the opinion that the schools would acquiesce to the specific wishes of inquiring optometrists and only refer certain students (i.e. white males) thus assisting those optometrists in discriminating against minorities and females. There is some indication that such practices may have indeed existed, but that they are dying out.

There currently exists a shortage of female clinicians in optometry. There is a strong demand for qualified women. In some cases this means that to be eligible for a full-time position, women would have to have a Ph D along with an OD. The supply of such women is small and will be for some time. At the same time, the shortage of female faculty and practitioners also creates a supply problem for women students who need and desire appropriate role models after whom to pattern their professional personalities. Lastly, the individual schools also suffer from a lack of diversity in their faculties which is desirable in a changing profession and which could possibly be provided by women.

The profession of optometry is at a critical point in its development. At the same time the following trends are converging:

- The post-war period practitioner who has dominated the optometry scene for thirty years is getting close to retirement. This group in numbers and motivation has carried the profession into the '70s.
- The schools of optometry are beginning to take the lead in pushing the profession into the future. Dynamic changes in curriculum and practice focus are being incorporated into the programs.
- The profession is working to extend the limits of the practice and license acts. In a number of states practitioners have been empowered to use drugs in the diagnosis of visual problems; and
- Research in the areas of vision, development, and psychology is being performed in a number of the schools of optometry thus tying the profession to a number of the behavioral sciences.

Most of the students of optometry are aware of and support the growth of their chosen profession. Our study revealed that women often are more supportive of the profession and goals because optometry represents their first professional choice rather than an alternative or second choice profession. It may be that such women would be excellent promoters and "political activists" of optometry.

VII. RECOMMENDATIONS

FOR THE PROFESSIONAL ASSOCIATIONS

The American Optometric Association should recognize the debt it owes to its early female practitioners. To do so the Association should continue to address the fact that optometry has proportionately the fewest women of all of the MODVOPPP professions. Accordingly, the AOA should approach the issue of women in the profession in a comprehensive and coordinated manner, including:

- keeping accurate data and records on the women in optometry, making information about practice patterns, reasons for inactivity, and reasons for certain trends available to dispel false rumours and stereotypes about women in optometry;
- informing practitioners about the need to associate with all types of optometrists rather than just white males and promoting the interests of all graduating OD's to ensure that they all will share in the future of optometry;
- coordinating all female enrollment, recruitment, and counseling programs together with the Association of Schools and College of Optometry and the individual schools themselves to ensure that the excellent services and information available to women are utilized to their maximum potential;
- promoting the interests of all OD's in all of the fields of optometric practice and in encouraging all OD's to participate in the activities of the profession. Hence, a person's sex should be an irrelevancy in determining the role that he or she can play in furthering the goals of the profession under the auspices of the association.

The Council on Optometric Education (COE) of the AOA, should endeavor to closely monitor the selection procedures of optometric residency programs that it will be accrediting in the future to ensure that there is no discrimination practiced. Women in other MODVOPPP professions apparently experience some problems with residencies because of lack of facilities for women, etc. The COE should guard against such practices.

The Association of Schools and Colleges of Optometry (ASCO) should continue to make the issues of women in optometry schools and in optometric practice known to the profession through the recently established Journal of Optometric Education and the ASCO Educator. It may be helpful to devote a certain amount of space to the interests, problems, and aspirations of women in optometry.

Moreover, ASCO should attempt to coordinate the various data gathering and analysis efforts going on in optometric education with the hope of analyzing all data collected (i.e. OCAT scores, entering GPA's, career patterns, etc.) by sex, in addition to other criteria. ASCO should also work together with the schools to insure that the best interests of optometric education are promoted, including;

- coordinating female recruitment efforts;
- promoting the development of a supply of qualified female clinicians to meet the needs of the schools;
- encouraging practitioners to judge prospective partners and associates on the basis of their competence rather than their race or sex.
- taking a stand in favor of expanding female enrollment not because it is required but because it is beneficial to the profession and the society;
- devoting energies to dispel any rumors or stereotypes about women, including conducting research into the reasons for high female OD inactivity, the practice problems of graduating OD's (including males); the practice preferences of graduating OD's; and continuing to identify the changing roles and relationships in optometric education and optometric practice.

FOR THE SCHOOLS

The schools and colleges of optometry should continue to expand their enrollment of qualified women applicants. However they should also recognize that those women face resistance from their fellow classmates, their instructors, their clinicians, and may face worse resistance on the outside. Hence, the administrators of the schools should endeavor to set a favorable tone of acceptance for their institutions and should demand a similar commitment of their faculty, staffs, and student bodies.

The schools should be careful to promote the interests of all of their students upon graduation. In no way should any preference from a practitioner, expressed or implied, be honored for referring students for employment. Any and all placement activities should focus on the proven capabilities of the individual student, and not on his or her sex or race. Moreover, the schools should actively work to encourage practitioners to consider all students for positions. In a

sense, a formal system of practice recruitment should be instituted to complement any special admissions recruitment effort.

Those schools that award the advanced degrees required of aspiring faculty should assume a responsibility to increase the supply of available women with such credentials. Exceptional female optometry students should be encouraged to pursue academic careers. Admissions efforts should seek to recruit women into optometry schools with the professional credentials to warrant graduate study. Optometry schools should encourage undergraduate physics or other science departments to provide a supply of qualified women for optometric academic careers. Lastly, optometry schools and colleges should consider other graduate degrees beyond the PhD in physiological optics for academic careers. This would seem appropriate especially when optometry is participating with other disciplines, especially the behavioral sciences, in research, and when the schools require such courses as psychology and social sciences for admission.

Lastly, the schools should recognize the special needs of their women students (i.e. child care, OB/GYN, family planning services) and begin to prepare plans for meeting these needs. If the numbers of women in optometry school continue to expand, there will come a time when the economies of scale will warrant the provision of such services and the schools should be prepared for such eventualities.

FOOTNOTES

1. The statement quoted in the text is attributed by the Havighurst Report to the then Secretary of Health, Education and Welfare, Elliott Richardson, on the occasion of the issuing of the report on the MODVOPPP professions.
2. Informants to the study mentioned the fact that ophthalmologists could not support their practices solely on the performance of eye surgery.
3. Much of the history included in this section is taken from the excellent chapter of The Havighurst Report, "The Profession of Optometry", by Monroe J. Hirsch, Dean of the School of Optometry, University of California at Berkeley.

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APPENDIX A

SUMMARY OF INDIVIDUAL AND GROUP INTERVIEWS, NUMBER OF SCHOOLS VISITED, OTHER CONTACTS WITH THE OPTOMETRY PROFESSION

A. NUMBER OF SCHOOLS VISITED: Two

B. BREAKDOWN OF INDIVIDUAL INTERVIEWS:

	<u>Male</u>	<u>Female</u>	<u>Total</u>
<u>Administrators</u>			
1. Deans, Presidents, Chancellors	3	--	3
2. Assistant or Associate Deans	2	--	2
3. Affirmative Action Officers	--	--	--
4. Other Administrators	2	2	4
TOTAL	<u>7</u>	<u>2</u>	<u>9</u>

Faculty

1. Pre-Clinical	4	1	5
2. Clinical	5	1	6
TOTAL	<u>9</u>	<u>2</u>	<u>11</u>

Students

1. First Year		4	4
2. Second Year	1	5	6
3. Third Year	3	2	5
4. Fourth Year	1	5	6
TOTAL	<u>5</u>	<u>16</u>	<u>21</u>

C. GROUP INTERVIEWS

<u>Male</u>		<u>Female</u>		<u>Mixed</u>		<u>Total</u>	
<u># of</u>	<u>Est. Avg.</u>	<u># of</u>	<u>Est. Avg.</u>	<u># of</u>	<u>Est. Avg.</u>	<u># of</u>	<u>Total</u>
<u>Groups</u>	<u>(N=7)</u>	<u>Groups</u>	<u>(N=7)</u>	<u>Groups</u>	<u>(N=8)</u>	<u>Groups</u>	<u>Total</u>
2	14	3	21	1	8	6	43

APPENDIX B

SUMMARY OF ASSOCIATIONS

- American Academy of Optometry (AAO)
- American Optometric Foundation
- American Optometric Students Association (AOSA)
- American Optometry Association (AOA)
- Committee on Public Health and Optometric Care of the AOA
- Council on Education of AOA
- Federation of Optometry Alumni Association
- International Boards of Examiners in Optometry
- National Optometric Association

APPENDIX C

GLOSSARY OF TERMS

The follow are definitions of a number of terms used in the profession of optometry and included in this paper.

AMBLYOPIA - A partial loss of sight, sometimes temporary, often correctable by lenses and/or vision therapy.

ANISEIKONIC TESTING - Testing for aniseikonia, a condition where the two eyes do not see the same size and shape of images.

ASTIGMATISM - A variation in the curvature or denseness of the eye structures that prevents a clear focus of images on the retina of the eye.

BINOCULAR VISION - The ability of both eyes to see the same point of an object at the same time.

CATARACT - A clouding of the normally clear crystalline lens or its containing membrane.

CONJUNCTIVITIS - Inflammation of the conjunctiva, the mucous membrane lining the inner surface of the eyelids and covering the front part of the eyeball.

CORNEA - The transparent front part of the eyeball where most refraction (bending) of light occurs.

GLAUCOMA - A condition of the eye characterized by abnormal pressure within the eye which, if untreated, causes impairment of vision or blindness.

KERATOMETER - Instrument which measures and examines the curvature of the cornea.

LOW VISION ANALYSIS - Special tests and numerous visual aids are used to determine if people with abnormally poor vision can have their vision improved to meet basic needs.

MYOPIA - Near-sightedness, functional or structural abnormalities of the eye that cause light to focus in front of the retina. Myopia causes blurring of distant objects.

ORTHOPTIC - Vision training for the improvement of vision perception and the coordination of the two eyes.

REFRACTION - The bending of a light ray; also refers to the examining of the eye to determine the lens correction needed.

APPENDIX D

OFFICIAL POSITIONS HELD BY WOMEN OPTOMETRISTS WITHIN THE AMERICAN OPTOMETRIC ASSOCIATION STRUCTURE, 1898 - 1975

<u>POSITION</u>	<u>NUMBER OF WOMEN WHO HAVE SERVED IN EACH POSITION</u>	<u>NUMBER OF TIMES POSITION HELD BY A WOMAN</u>
2nd. Vice-President	1	1
4th. Vice-President	3	3
Treasurer	1	1
Trustee	3	3
Executive Council, member	3	3
Administrative Council, member	1	1
Board of Regents, member	1	1
Physiological Section, Vice-President	1	1
Scientific Section:		
Vice-Chancellor	2	2
Member	1	1
Chairman/Director		
Departments	4	5
Committees	11	20
Assistant Director, Departments	2	2
Member:		
Commissions	1	1
Committees	22	49
Consultants	3	5

SOURCE: *International Library, Archives &
Museum of Optometry
7000 Chippewa Street
St. Louis, Missouri 63119
1975*

APPENDIX E

SUMMARY OF STUDENT GROUP INTERVIEW ISSUES REGARDING PROFESSIONAL TRAINING

INTRODUCTION

URSA used two primary techniques for interviewing students about their professional training experiences in general and about the problems they encounter in gaining access to and pursuing professional training in particular. Each produced a different set of issues and different emphases.

URSA adapted a planning technique known as the Delbecq Nominal Group Process into a form of group interview which we used to surface from groups of students a broad spectrum of problems and issues they encounter in professional training. The groups were small--typically numbering less than twelve--and they included all female groups, mixed male/female groups, and all male groups. The group interviews gave us insights into which of the problems most group members shared, which seemed to present the greatest obstacles in professional training, and which are controversial.

URSA also conducted a series of individual one-on-one interviews with male and female students. The individual interviews often touched on problems and issues not raised in the group interviews because they might be considered "too personal", because they needed direct probes and encouragement to surface, because they were not shared by other members in the group, or because they were not directly related to the question the group was asked to address.

The list of problems included in this Appendix and the analysis which precedes it represent only those issues raised in group interviews by students in response to a single question posited them by the URSA field team. The list does not include any additional issues--and there were many--which surfaced in individual interviews.

As the study progressed, URSA used several questions in the group interviews, changing them to allow us to probe or follow new areas of concern. As most were non-productive (see VOLUME I on Methodology), this Appendix includes only responses to the question: "Given your experiences and observations, what problems does a woman encounter in becoming an X (doctor, dentist, etc.)?" for women, "Given your experiences and observations, what problems does a person encounter becoming an X?" for mixed groups, and "...what problems does a man encounter in becoming an X?" for the men.

Group members were given approximately ten minutes to write their responses to the question on a card, and the answers were recorded without discussion on easel pads so that all members of the group could see the responses. The list of problem categories included and discussed below was generated from the responses on these cards and on the easel pads. In most cases different issues were raised by men and women, but in all cases where the problem category was shared, it was discussed in different contexts, with different emphases, and in terms of a differential impact on men and women.

Generally the problems mentioned clustered into six categories: structural features of the school(s), profession(s), or sex roles; absence or inadequacy of programs, services, facilities, or equipment provided by the training institutions; problems with characteristics of the profession and its work; access to resources required to consider the profession, be admitted to school, and to participate fully in professional practice; negative attitudes and behaviors of peers, faculty, practitioners, and clients; and the impact on oneself of all of the above.

STRUCTURAL FEATURES OF THE SCHOOL(S), PROFESSION(S), OR SEX ROLES

This category includes all those structural features of the profession or school that affect women's experiences in training as well as structural consequences of societal sex roles which reflect the society's assumptions about appropriate roles for men and for women. By appropriate roles we mean those behaviors, feelings, attitudes, skills, attributes, characteristics, and motivations we usually associate with one sex to a greater extent and/or more often than with the other. Structurally, for women, this refers to the specific sets of responsibilities delegated to them by the society on the basis of their gender. Issues raised by women students in this category include:

Lack of Role Models

Basically this is an issue of how many and where women faculty appear in the schools. At some schools the problem is that there are no women faculty or clinicians at all to whom female students can look for evidence that a woman "can do it." In other schools, women appear only in what students consider the lesser status positions (e.g., Basic Science Instructors) which women students feel is a statement about a woman's proper role within the profession. At the few schools in which women clinicians appear in high level positions, some female students may reject them as unacceptable role models because the women have not managed to balance professional success in filling other feminine roles.

Lack of a Support Group of Women

Women students hope and sometimes expect that support from other women will help offset the social and professional isolation they feel in the male environment of the professional schools. The lack of such support is a severe disappointment and often aggravates the pressures of loneliness and isolation. This is a direct result of few numbers of women in a class or school and is compounded by differences in age and marital status.

Being Tracked into a Limited Range of Specialties or Practice Opportunities

This problem has two aspects. Certain specialties and practice options in each of the professions are labeled as more or less appropriate for women. To some degree these labels are consistent with commonly held stereotypes regarding women in this society. For example, the specialties involving work with children are all considered appropriate for women. Similarly, regarding practice options, those that involve supervising a staff and running a business are generally regarded inappropriate for women. For most women in making the decision regarding specialty selection or practice choice, the stereotypes and pressures to go into one rather than another

selection are important. More important, though, are those problems arising from the necessities in a woman's life of carrying responsibility for both a family and a profession. This consideration, and at times necessity, works to track women into those specialties or practice options that are most easily controlled in terms of numbers of hours worked.

Balancing Work/Family

The years of professional training coincide in our society with a woman's childbearing years. To the extent that women are primarily responsible for the home and children, the problems of time management, energy commitment and sheer logistics in being a full-time student and committed practitioner and wife/mother at the same time create a tremendous pressure and problem for women that men do not experience. This is the single most widespread, cross-professional issue of which women spoke. If the women were not already in the position of managing both wife/mother and professional (student) roles, they anticipated that they would in the future.

Women at a Disadvantage Due to Background or Physical Ability

In some professions women feel that they have a distinct disability or handicap due to their background and socialization as women or due to physical size. In dentistry, for example, a familiarity with tool use and terminology is important and often assumed by the schools. Many women spoke of the problems they encountered in picking up such skills and information that the schools assumed they had but didn't (and that many male students did, in fact, have). In other professions where physical size and strength are important, women spoke of the difficulties and inequities in trying to learn techniques that were developed for the male physique.

Social Problems: Fear of the Impossibility of Finding a Mate

Women in all the MODVOPPP professions speak of some problems with dating men who do not understand, support, or accept their choice of a male profession. In medicine women speak of the fear of never finding a male who could accept their high status, high pay, and strong professional commitment. This problem is uniquely women's because it is an accepted pattern in our society for men to marry women who have less social status and less earning power than they. For women in professions with top status and pay, the range of men for whom they make appropriate matches tends to be limited to the men within the profession who might be more successful than they.

ABSENCE OR INADEQUACY OF PROGRAMS, SERVICES, FACILITIES, EQUIPMENT AND OTHER SUPPORTS OR RESOURCES

When schools fail to provide, or provide inadequate, resources in the learning environment and training program, difficulties are caused for women. This becomes an issue when their special or equal needs are not met by the physical plant. For example, when uniforms, lab coats, surgical gowns, etc., are not available in women's sizes women have to wear things too big for them or dress in the uniforms of other health professionals (such as clerks in pharmacies, nurses in surgery). Changing rooms, lounges, women's toilets, and on-call sleeping facilities are often not as available and accessible to women as to men. Health care services or insurance often do not

cover gynecological and family planning services. Child care is not available. Escort services are not available for women working late in labs, clinics, or libraries.

CHARACTERISTICS OF THE PROFESSION AND ITS WORK

Issues in this category were only mentioned by male students. The category includes features of the work or of the profession which create a pressure on the student and on the practitioner. For example, the life or death responsibility of a physician is felt heavily by medical (both MD and DO) students who feel a special necessity for learning everything possible while in training, for developing emotional means of dealing with that responsibility, and for demanding a more than full-time dedication and commitment from themselves and their peers. An issue more widespread among the MODVOPPP professions has to do with the relative status of a profession vis-à-vis the medical profession. Particularly in the lesser known professions that are struggling with the medical profession for recognition and control over practice rights, the lower status is seen by male students to be a large obstacle to public acceptance.

ABSENCE OF OR DIFFICULTY IN GAINING ACCESS TO RESOURCES REQUIRED TO CONSIDER PROFESSION, BE ADMITTED TO SCHOOLS, OR ESTABLISH FULL PROFESSIONAL PRACTICE

Lack of Encouragement and/or Information

Given the rigors of training and the added pressures for women in a male profession, institutional and informal supports are vital. Women feel a lack of encouragement and support and at times experience direct discouragement. Particularly in the decision to pursue a profession the amount and extent of information and encouragement given women is vital. Although men spoke of a lack of information as an issue for them in the lesser known MODVOPPP professions, it is even more difficult for women. A related issue is access to information passed along informal networks that do not include women--e.g., fraternities, golfing partners, etc., giving helpful hints or suggestions for "how to get what you want" peculiar to the profession.

Access to the Profession's Informal Network of Practitioners

Women experience problems in this area both in training and when trying to obtain access to internships, residencies, or jobs. While in training, women report they are left out of the informal male network in which information is exchanged, support given, and friendships formed. These settings include fraternities, men's changing rooms, golf, and other athletic teams. Women worry that this will result in being left outside the referral and job network when they become practitioners. All students, male and female, worry about getting jobs, internships, and residencies. Women devote much of their energy in this regard to figuring out how to deal with the well-documented and well-known prejudices against women held by practitioners. This increases the pressure on women to "prove" themselves, reinforces the feeling that they aren't welcome in the profession, and most importantly, represents a real obstacle to women in getting through training and into professional practice. Jobs passed from fraternity brother to fraternity

brother, practitioners relying on informal recommendations from their friends regarding which applicants to accept to their practice, and prejudices about the abilities and competencies of women all result in important limits on women's access to these positions.

Absence of Appropriate Personal Characteristics and Attributes
Required of Students, Practitioners

This problem was expressed in resentments and statements made by male students in their group interviews and by women in terms of the main stereotypes which the women feel are used to challenge their presence in the schools and in the professions. Frequently mentioned stereotypes include: "women are too emotional", "women are only accepted because they are women", "women are less dedicated", "women are only here to prove something", "women are not good at analytical thinking", "women are too indecisive to be good managers".

Absence of, Concern about Ability to Meet Formal Requirements of
Students, Practitioners

This category of issues was mentioned only by men in most professions. It was expressed as concern about passing courses, passing the National Licensing Boards, etc.

Access to Financing

The financial burden of training is felt by both male and female students, but it is expressed to a different degree and in different contexts. For women it is harder to earn money before and while in training. The jobs available to women often pay less money, and in some professions where jobs are available to the untrained (e.g., veterinary clinic assistant), women are not given the jobs. While in training women report they believe it is more difficult for women to get adequate loans. Parents are often less willing to support a woman than a man through expensive and long training. Spouses are less often available as a source of support for women.

NEGATIVE ATTITUDES AND BEHAVIORS OF OTHERS

This category includes the constellation of attitudes, reactions, and behaviors which women face daily in the training environment.

Incidents of Sexism in the School

We heard many and various reports of jokes at the expense of women--e.g., denigrating comments, nudie slides in lectures, actions or comments aimed at embarrassing or "putting down" women, intentional or unintentional use of language in such a way as to ignore or put down women. The majority of these incidents were performed by male peers or male faculty.

Resentments by Male Peers

This resentment is primarily expressed by male students in regard to competitive situations in the profession. For example, it includes resentments that women in school are taking a man's place, that women getting jobs means less for men. It also includes beliefs that women get special treatment by admissions committees, faculty members, and clinicians. Another source of resentment from male peers regards the amount of sexuality that is regarded

as appropriate in women. At some schools males express disapproval of the women for stepping outside the boundaries of a traditional woman's role, thus in some way challenging their own assumptions about and ways of dealing with women.

Client Prejudices

This category includes both real and anticipated problems with patient disbelief, distrust, and sometimes refusal to be treated by a female practitioner. The result of these prejudices is that while in training women may be denied important learning opportunities, while in practice it may be more difficult for them to get patients, and in all cases they must anticipate the necessity of proving their competence.

The Prejudices of Staff and Employees in Clinic Settings

In the professions that include a business or managerial component, prejudices and unwillingness of employees and staff to be supervised by a woman is particularly difficult. In all the professions, respect and acceptance as a professional by other health workers is essential. Women report that respect and acceptance are denied them because of their gender.

THE IMPACT ON ONESELF OF STRUCTURAL FEATURES, THE ATTITUDES, AND BEHAVIORS OF OTHERS, OF THE TRAINING PROCESS ITSELF

All of the above listed problems mentioned by women have some impact on their own feelings about themselves and their profession, on the choices they make, and on their behaviors.

Women's Double Binds

This category was variously described by women as "walking a very thin line", "damned if you do, damned if you don't", and "you can't win as a woman and as a professional." Standards of professional behavior conflict with standards of feminine behavior and women are caught in the middle, particularly in situations requiring aggressiveness, decisiveness, or managing others.

Women's Feeling That They Must Work Harder to Prove Themselves

The combined pressures and impact on women of stereotypes that challenge women's abilities, competencies and commitments result in women reporting the following kinds of problems: women fear making mistakes or taking risks; they fear speaking up or asking questions that might be considered stupid; they feel they have to work twice as hard to be recognized by faculty; women feel reluctant or unable to ask for any special support or help out of fear that the request would reinforce negative stereotypes about women.

Problems with Maintaining Relationships/Other Interests

This has most to do with the emotional strain, academic time pressures, and isolation of being a health profession student. Both male and female students feel cut off from friends not in training with them, and they experience problems in finding energy to devote to significant relationships and in lack of time to spend on other interests. While these problems were mentioned with equal emphasis by both men and women, for women the problems of isolation and being cut off from people outside of the training experience increases the difficulties they experience of being isolated within the training environment, too.

Competition and Academic Pressures

Only male students have expressed this as a concern in each profession, and it appears to be a central problem for them.

Feeling You Must Turn Off Your Emotions

Although related to double binds for women where expressing emotion is considered inappropriate as professional behavior, this is a specific issue that was raised by both men and women. Professional conduct and the pressures of dealing with many cases in a small amount of time demands a certain distancing on the part of the practitioner. Women and some men take issue with these demands because they feel it cuts off a part of them that is (and in their minds, should be) a part of their medical involvement.

Concern That The Training Process "Changes Who You Are"

Again, a concern shared by male and female students, this relates to all the ways in which they feel the professionalization process demands conformity to a single model of professional conduct and attributes.

Three Summary Checklists of Group Interview Issues follow. The first compares women's concerns among the eight MODVOPPP health professions included in this study; the second compares men's. The third compares men's and women's responses in this profession only.

SUMMARY CHECKLIST OF FEMALE GROUP INTERVIEW ISSUES
COMPARATIVE MODVOPPP PROFESSIONS

	M	O	D	V	O	P	P	P
<u>STRUCTURAL FEATURES</u>								
Lack of Role Models	•	•				•		•
Lack of Support Group of Women		•				•		•
Tracked into Limited Specialties/Options	•	•	•	•		•	•	
Balancing Work/Family	•	•	•	•	•	•	•	
Women's Disadvantage in Background or Size		•	•	•				
Social Problems	•							
<u>ABSENCE OR INADEQUACY OF FACILITIES</u>	•	•	•	•		•		
<u>CHARACTERISTICS OF THE PROFESSION AND ITS WORK</u>								
Life and Death Responsibility								
Relative Status of the Profession					•			•
<u>ABSENCE OF OR DIFFICULTY IN GAINING ACCESS TO RESOURCES</u>								
Lack of Encouragement and/or Information	•	•	•	•	•		•	•
Access to the Informal Network	•	•	•	•	•	•	•	•
Absence of Required Personal Attributes	•	•	•	•	•	•	•	•
Absence or Concern about Meeting Formal Requirements			•			•	•	
Access to Financing	•	•	•	•	•	•	•	
<u>NEGATIVE ATTITUDES/BEHAVIORS OF OTHERS</u>								
Incidents of Sexism	•	•	•	•	•	•	•	•
Resentment by Male Peers	•	•	•	•	•	•	•	
Client Prejudices	•	•	•	•	•	•	•	
Staff/Employee Prejudices	•		•			•	•	•
<u>IMPACT ON SELF OF TRAINING</u>								
Double Binds	•	•	•	•		•	•	•
Women Feel Must Work Harder	•	•	•	•	•	•	•	•
Problems with Maintaining Relationships	•	•	•	•		•		
Competition and Academic Pressures								
Feeling You Must Turn off Emotions	•	•	•					•
Concern That the Training Process Changes You	•							

SUMMARY CHECKLIST OF MALE GROUP INTERVIEW ISSUES
COMPARATIVE MODVOPPP PROFESSIONS

	M	O	D	V	O	P	P	P
<u>STRUCTURAL FEATURES</u>								
Lack of Role Models								
Lack of Support Group of Women								
Tracked into Limited Specialties/Options								
Balancing Work/Family								
Women's Disadvantage in Background or Size								
Social Problems								
<u>ABSENCE OR INADEQUACY OF FACILITIES</u>								
<u>CHARACTERISTICS OF THE PROFESSION AND ITS WORK</u>								
Life and Death Responsibility	•	•						
Relative Status of the Profession		•	•		•	•	•	•
<u>ABSENCE OF OR DIFFICULTY IN GAINING ACCESS TO RESOURCES</u>								
Lack of Encouragement and/or Information								•
Access to the Informal Network								
Absence of Required Personal Attributes								
Absence or Concern about Meeting Formal Requirements		•	•		•	•	•	•
Access to Financing	•	•	•	•		•	•	
<u>NEGATIVE ATTITUDES/BEHAVIORS OF OTHERS</u>								
Incidents of Sexism								
Resentment by Male Peers								
Client Prejudices								
Staff/Employee Prejudices								
<u>IMPACT ON SELF OF TRAINING</u>								
Double Binds								
Women Feel Must Work Harder								
Problems with Maintaining Relationships	•	•		•		•		
Competition and Academic Pressures	•	•	•	•		•	•	•
Feeling You Must Turn off Emotions								
Concern That the Training Process Changes You	•	•						

SUMMARY CHECKLIST OF GROUP INTERVIEW ISSUES

<u>OPTOMETRY</u>	<u>WOMEN</u>	<u>MEN</u>
<u>STRUCTURAL FEATURES</u>		
Lack of Role Models		
Lack of Support Group of Women		
Tracked into Limited Specialties/Options		
Balancing Work/Family	•	
Women's Disadvantage in Background or Size		
Social Problems		
<u>ABSENCE OR INADEQUACY OF FACILITIES</u>		
<u>CHARACTERISTICS OF THE PROFESSION AND ITS WORK</u>		
Life and Death Responsibility		
Relative Status of the Profession	•	•
<u>ABSENCE OF OR DIFFICULTY IN GAINING ACCESS TO RESOURCES</u>		
Lack of Encouragement and/or Information	•	
Access to the Informal Network	•	
Absence of Required Personal Attributes	•	
Absence or Concern about Meeting Formal Requirements		•
Access to Financing	•	
<u>NEGATIVE ATTITUDES/BEHAVIORS OF OTHERS</u>		
Incidents of Sexism	•	
Resentment by Male Peers	•	
Client Prejudices	•	
Staff/Employee Prejudices		
<u>IMPACT ON SELF OF TRAINING</u>		
Double Binds	•	
Women Feel Must Work Harder	•	
Problems with Maintaining Relationships	•	
Competition and Academic Pressures		
Feeling you must Turn off Emotions		
Concern that the Training Process Changes You		

APPENDIX F

SUMMARIES OF CHARACTERISTICS OF SCHOOLS AND INTERVIEW RESPONDENTS IN EIGHT MODVOPPP PROFESSIONS

SCHOOL VISIT SITE SELECTION BY CHARACTERISTICS

	# of Field Sites	Urban	Rural	North Central (1)	South	Northeast	West	Public	Private	Free-Standing	Univ. Affiliate	Physically Indep.	Medical Center	Part of Campus	High Status (2)	Low Status (2)	High % Women Enrolled (3)	Low % Women Enrolled (3)
Medicine	9	8	1	1	3	2	3	5	4	1	8	1	2	6	6	3	7	2
Osteo. Med. (4)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	N/A	N/A	1	1
Dentistry	5	5	0	0	2	1	2	3	2	0	5	1	2	2	2	3	4	1
Vet. Med.	2	1	1	1	0	0	1	2	0	0	2	0	0	2	N/A	N/A	1	1
Optometry	2	2	0	0	0	1	1	1	1	1	1	1	0	1	1	1	1	1
Podiatry (4)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	N/A	N/A	2	0
Pharmacy	3	3	0	0	0	1	2	1	2	1	2	1	1	1	1	2	2	1
Pub. Hlth.	2	2	0	0	1	0	1	1	1	0	2	1	0	1	2	0	2	0
TOTAL	27	21	2	2	6	5	10	13	10	3	20	5	5	13	N/A	N/A	20	7

- (1) The four regions are comprised of the following states:

North Central: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Idaho, Wisconsin, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming.

South: District of Columbia, Maryland, West Virginia, Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia.

Northeast: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, Delaware, New Jersey, New York, Pennsylvania.

West: Arizona, New Mexico, Oklahoma, Texas, Colorado, Alaska, California, Hawaii, Nevada, Oregon, Washington

- (2) Where known or applicable, status is defined as the degree of respect accorded a given institution by members of the same profession.
- (3) Higher or lower than the national proportion of women enrolled by profession.
- (4) This information has been intentionally omitted since the combination of characteristics might identify which schools were visited. Thus totals for site characteristics do not add to 27.

SUMMARY OF INDIVIDUAL INTERVIEWS

	# of Schools	Administrator Interviews															Faculty Interviews								
		Deans, Presidents, Chancellors			Asst. or Assoc. Deans			Affirmative Action (1)			Other Admin. (2)			Total Admin.			Pre-Clinical Faculty			Clinical Faculty			Total Faculty		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Medicine	9	10	--	10	11	5	16	--	5 ⁽¹⁾	5 ⁽¹⁾	11	15	26	32	25	57	8	13	21	19	21	40	27	34	61
Osteo. Med.	2	3	--	3	4	--	4	--	--	--	4	1	5	11	1	12	5	--	5	4	6	10	9	6	15
Dentistry	5	5	--	5	13	--	13	--	--	--	1	4	5	19	4	23	5	3	8	16	5	21	21	8	29
Vet. Med.	2	1	--	1	4	--	4	--	1	1	3	2	5	8	3	11	2	2	4	9	5	14	11	7	18
Optometry	2	3	--	3	2	--	2	--	--	--	2	2	4	7	2	9	4	1	5	3	1	4	7	2	9
Podiatry	2	2	--	2	3	1	4	1	--	1	1	2	3	7	3	10	3	10	13	5	1	6	8	11	19
Pharmacy	3	3	--	3	6	--	6	--	--	--	5	6	11	14	6	20	4	3	7	5	4	9	10	7	17
Pub. Hlth. (5)	2	1	--	1	2	1	3	--	--	--	--	1	1	3	2	5	N/A	N/A	N/A	5	5	10	5	5	10
TOTALS	27	28	--	28	45	7	52	1	6	7	27	33	60	101	46	147	31	32	63	67	48	114	98	80	178

(1) Of the 5 Affirmative Action, 4 were university-wide and therefore covered, in three instances, dentistry, and in one instance, pharmacy, as well as medicine.

(2) Includes Registrars, Business Managers, Administrative Assistants, Directors of Special Programs, Centers, Institutes or Grants, Financial Aid Officers.

SUMMARY OF INDIVIDUAL INTERVIEWS (Continued)

Individual Student Interviews																		Intern & Resident Interviews												Total Respondents		
1st Year			2nd Year			3rd Year			4th Year			Unknown Or "Other" Students			Total Individual Students (3)			Site Admin.			Interns & Residents			Total Admin., Interns & Residents								
M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T			
6	21	27	4	13	17	2	9	11	1	5	6	2	13	15	15	61	76	3	1	4	9	11	20	12	12	24	86	132	218			
3	3	6	1	2	3	2	4	6	--	1	1	--	--	--	6	10	16	←			N/A						→	26	17	43		
1	7	8	5	9	14	1	--	1	2	7	9	4	1	5	13	24	37	1	--	1	--	2	2	1	1	2	54	37	91			
5	4	9	2	5	7	--	4	4	--	2	2	--	1	1	7	16	23	1	--	1	2	3	5	3	3	6	29	29	58			
--	4	4	1	5	6	3	2	5	1	5	6	--	--	--	5	16	21	←			N/A						→	19	20	39		
--	1	1	--	2	2	1	2	3	4	2	6	--	--	--	5	7	12	1	--	1	3	--	3	4	--	4	24	21	45			
--	1	1	--	5	5	1	7	8	1	2	3	6	7 ⁽⁴⁾	13 ⁽⁴⁾	8	22	30	←			N/A						→	32	35	66		
6	7	13	--	--	--	--	--	--	--	--	--	--	--	--	6	7	13	1	--	1	2	4	6	3	4	7	17	18	35			
21	48	69	13	41	54	10	28	38	9	24	33	12	22	34	65	163	228	7	--	7	16	20	36	23	20	43	287	309	595			

(3) Male students were not a key respondent group in the study until after submission of the Interim Report at which time the study's focus was expanded to include them in greater numbers. The imbalance between male and female student interviews remains because URSA visited half of the schools in the study (14 of 27) prior to the Interim Report.

(4) Includes 1 fifth-year and 1 sixth-year student.

(5) Hospital Administration and Epidemiology faculty and students combined. Due to varying lengths of training programs, all Public Health students arbitrarily counted as first-year students.

MODVOPPP GROUP INTERVIEW SUMMARY

	Male		Female		Mixed		Total	
	# of Groups	Estimated Average N=7	# of Groups	Estimated Average N=7	# of Groups	Estimated Average N=8	# of Groups	Estimated Total
Medicine	4	28	13	91	--	--	17	119
Osteo. Med.	3	21	3	21	1	8	7	50
Dentistry	1	7	8	56	1	8	10	71
Vet. Med.	--	--	5	35	3	24	8	59
Optometry	2	14	3	21	1	8	6	43
Podiatry	1	7	2	14	--	--	3	21
Pharmacy	2	14	6	42	1	8	9	64
Pub. Hlth.	1	7	1	7	--	--	2	14
TOTAL	14	98	41	287	7	56	62	441